

AD-A047 248

NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATL--ETC F/G 4/2  
NEW YORK CITY PILOTS AUTOMATIC TELEPHONE WEATHER ANSWERING SERV--ETC(U)  
OCT 77 F STAIANO, E SHOCHET

UNCLASSIFIED

FAA-NA-77-21

FAA-RD-77-80-VOL-2

NL

1 OF 4  
ADA  
047248



Report No. FAA-RD-77-80, II

12

**NEW YORK CITY PILOTS AUTOMATIC  
TELEPHONE WEATHER ANSWERING  
SERVICE (PATWAS) TEST, VOLUME II**

Frank Staiano

Ephraim Shochet



OCTOBER 1977

**FINAL REPORT**

Document is available to the public through the  
National Technical Information Service  
Springfield, Virginia 22151

Prepared for

**U. S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

Systems Research & Development Service

Washington, D.C. 20590

AD A047248

AD NO. \_\_\_\_\_  
DDC FILE COPY

DDC  
RECEIVED  
DEC 04 1977  
FBI



#### NOTICE

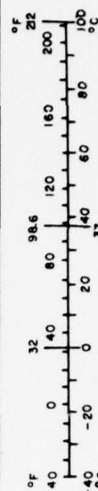
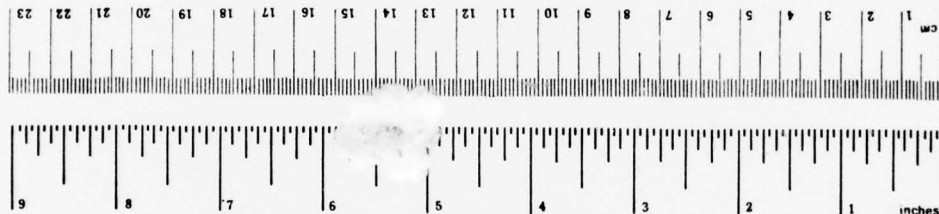
This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

# METRIC CONVERSION FACTORS

## Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
<b>LENGTH</b>				
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
<b>AREA</b>				
in <sup>2</sup>	square inches	6.5	square centimeters	cm <sup>2</sup>
ft <sup>2</sup>	square feet	0.09	square meters	m <sup>2</sup>
yd <sup>2</sup>	square yards	0.8	square meters	m <sup>2</sup>
mi <sup>2</sup>	square miles	2.6	square kilometers	km <sup>2</sup>
	acres	0.4	hectares	ha
<b>MASS (weight)</b>				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
<b>VOLUME</b>				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft <sup>3</sup>	cubic feet	0.03	cubic meters	m <sup>3</sup>
yd <sup>3</sup>	cubic yards	0.76	cubic meters	m <sup>3</sup>
<b>TEMPERATURE (exact)</b>				
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

Symbol	When You Know	Multiply by	To Find	Symbol
<b>LENGTH</b>				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
km	kilometers	1.1	yards	yd
		0.6	miles	mi
<b>AREA</b>				
cm <sup>2</sup>	square centimeters	0.16	square inches	in <sup>2</sup>
m <sup>2</sup>	square meters	1.2	square yards	yd <sup>2</sup>
km <sup>2</sup>	square kilometers	0.4	square miles	mi <sup>2</sup>
ha	hectares (10,000 m <sup>2</sup> )	2.5	acres	
<b>MASS (weight)</b>				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
<b>VOLUME</b>				
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m <sup>3</sup>	cubic meters	35	cubic feet	ft <sup>3</sup>
m <sup>3</sup>	cubic meters	1.3	cubic yards	yd <sup>3</sup>
<b>TEMPERATURE (exact)</b>				
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



\*1 in. = 2.54 (exact). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price \$2.25, SD Catalog No. C13.10.286.

## Technical Report Documentation Page

1. Report No. FAA-RD-77-80, II	2. Government Accession No. 13 FAA-RD 77-80-Vol-21	3. Recipient's Catalog No.
4. Title and Subtitle NEW YORK CITY PILOTS AUTOMATIC TELEPHONE WEATHER ANSWERING SERVICE (PATWAS) TEST, VOLUME II.	5. Report Date October 1977	6. Performing Organization Code 12 315P
7. Author(s) Frank/Staiano and Ephraim/Shochet	8. Performing Organization Report No. 14 FAA-NA-77-21	9. Sponsoring Agency Name and Address U.S. Department of Transportation Federal Aviation Administration Systems Research and Development Service Washington, D.C. 20590
10. Work Unit No. (TRAIS)	11. Contract or Grant No. 131-440-810	12. Sponsoring Agency Code
13. Type of Report and Period Covered 9 Final report August 1975 - July 1976	14. Sponsoring Agency Code	
15. Supplementary Notes This is a two-volume report. Volume I (FAA-RD-77-80, I) summarizes the work and presents conclusions and recommendations; volume II (FAA-RD-77-80, II) contains detailed technical data. The Executive Summary (FAA-RD-77-80) presents a compendium of the NYC PATWAS Test.		
16. Abstract An improved Pilots Automatic Telephone Weather Answering Service (PATWAS) was subjected to a year-long test in the New York City metropolitan area. The improvements consisted primarily of the following: (1) user access to three route-oriented briefings, (2) an increase in the number of access lines to PATWAS, (3) more frequent updating of information, (4) the addition of special early morning recordings, (5) capability to request meteorological and aeronautical information from the Weather Message Switching Center for incorporation into the PATWAS message, (6) reduction in the time required for updating, (7) addition of more meteorological and aeronautical information to the PATWAS message, (8) new and more efficient magnetic tape equipment, (9) installation of an acoustic enclosure for PATWAS tape recording, and (10) more efficient organization of the message format.  The purpose of the experiment was to test and evaluate the new PATWAS products, schedules, user acceptance, and the effects on the telephone briefing workload at the flight service station (FSS).  In addition, the test permitted the gathering of technical performance data which could serve as the basis for a new, consolidated national system for the mass dissemination of weather information. It is concluded that the improved PATWAS disseminates more weather information, reduces FAA/NWS telephone briefer workloads, is preferred over the basic PATWAS, and is acceptable to the general aviation public.		
17. Key Words Pilots Automatic Telephone Weather Answering Service Preflight Weather Briefing Weather Information	18. Distribution Statement Document is available to the public through the National Technical Information Service, Springfield, Virginia 22151	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 314
		22. Price

## PREFACE

Acknowledgement is given to the following FAA/NAFEC personnel and organizations:

Mr. Louis Delemarre, ANA-230, who fabricated the data collection system for the telephone line utilization of the trial PATWAS.

Dr. Shiu-Ming Cheung, ANA-553, for the valuable assistance in providing the required programming support.

The Data Preparation Section, ANA-245, for their valuable assistance in providing the required programming support.

The Printing and Distribution Section, ANA-524, for the expeditious printing and mailing of the PATWAS materials.

Acknowledgement is given to Mr. George Barboza, SRDS/ARD-440, for his important contribution to the conceptual design of the experiment and invaluable suggestions which served to improve the results of the test.

Acknowledgement is given to Mr. Edward Gross of the National Weather Service Headquarters for his important contribution and encouragement in the conceptual development of the test and to personnel of the National Weather Service, who not only made the experiment possible, but along with FAA personnel, assisted in conducting the test.

The professional skill of Mr. Edward Morin of the National Weather Service at La Guardia Airport is gratefully acknowledged. Mr. Morin and members of his staff helped to develop the product design and schedule and were responsible for providing the required manpower on a day-to-day basis for accomplishing the operational aspects of the test.

Acknowledgement is given to Mr. John Vandenberg of Lockheed Electronics Corporation who accomplished the test design and the analysis of data.

ACCESSION for	
NTIS	White Section <input checked="checked" type="checkbox"/>
DDC	Buff Section <input type="checkbox"/>
UNANNOUNCED	
INVESTIGATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
SP. CIAL	
A	

# TABLE OF CONTENTS

	Page
INTRODUCTION	1-1
PATWAS CONTACTS, FSS/WSO BRIEFINGS, AND AIRCRAFT OPERATIONS	2-1
MULTIVARIATE ANALYSIS OF VARIANCE (QUESTION 10--COMPARISON BETWEEN BASIC PATWAS AND TRIAL PATWAS)	3-1
MULTIVARIATE ANALYSIS OF VARIANCE (QUESTION 8--REACTION TO TRIAL PATWAS)	4-1
FSS CONTACT, PRE-FLIGHT AND IN-FLIGHT	5-1
SUPPLEMENTAL SURVEY	6-1
TELEPHONE ACTIVITY	7-1
QUESTIONNAIRE DATA (INITIAL AND FOLLOW-UP)	8-1
QUESTIONNAIRE DATA (INITIAL)	9-1
QUESTIONNAIRE DATA (FOLLOW-UP)	10-1
QUESTIONNAIRE DATA (SUPPLEMENTAL)	11-1



# LIST OF TABLES

Table		Page
1-1	Summary of Data Collection Methods	1-4
1-2	Counties of Residence and Airports Included in NYC PATWAS Test	1-5
1-3	Test Procedures and Affected Time Periods	1-6
2-1	Number of Basic PATWAS Contacts	2-2
2-2	Number of La Guardia Telephone Pilot Briefings	2-2
2-3	Number of La Guardia Personal Pilot Briefings	2-3
2-4	Number of Islip Pilot Briefings	2-3
2-5	Number of Teterboro Pilot Briefings	2-4
2-6	Number of Trial PATWAS Contacts	2-4
2-7	General Aviation Itinerant Operations EWR, MMU, TEB, FRG, HPN, ISP, JFK, LCA	2-5



## INTRODUCTION

### OBJECTIVE.

As part of the Near Term Flight Service Station Improvement Program, the Federal Aviation Administration (FAA), in conjunction with the National Weather Service (NWS), conducted a controlled experiment known as the New York City (NYC) Pilots Automatic Telephone Weather Answering Service (PATWAS) Test. The purpose of the experiment was to test and evaluate new PATWAS products, schedules, user acceptance, the effects on the telephone briefing workload at the flight service station (FSS), and to gather technical performance data.

### BACKGROUND.

Prime responsibility for conducting and financing the NYC PATWAS test was assigned to the FSS Branch (ARD-440) of the FAA. With technical support from the FAA's National Aviation Facilities Experimental Center (NAFEC), ARD-440 was responsible for the following:

1. Design, procurement, and installation of system equipment.
2. Development of a test plan delineating the method of data collection, analysis, and interpretation of the results obtained.
3. Cooperation with the NWS to assist in the definition of procedures, products, and schedules for the test.

The NWS was responsible for the following:

1. Detailed operational aspects.
2. Weather product design and scheduling.
3. Manpower required to develop the necessary products and text.
4. The manual preparation of the recordings.

The rapid growth in general aviation has made it necessary to improve and expand the present system for disseminating aviation weather information to the flying public. It is apparent that the projected growth of the flying public will give rise to a corresponding increase in the demand for preflight weather briefings. One of the most effective techniques currently being utilized to disseminate aviation weather information is the telephone-accessed prerecorded PATWAS. The purpose of PATWAS is to provide aviation users with weather information for preflight planning.

Operational since July 1975, a trial PATWAS system in the NYC area provides telephone access to three tailored independent recordings at three different phone numbers. One phone number provides the local New York area (50 nautical mile (nmi) radius) conditions. Briefing information for routes northbound is available at a second number. The third number provides pertinent information for routes south and westbound. Selected Notice to Airmen (NOTAM's) which affect flight safety or the use of aeronautical facilities are appended to the appropriate recordings. The number of access lines was increased to virtually eliminate busy signals. Other improvements included new magnetic tape equipment, expanded message content, improved message format, more frequent updating of information, and reduction in the time required for updating. In order to meet the pilot's need for current weather information in the early hours, presumably when he is doing his flight planning, two special early morning recordings were developed in addition to those prepared in the morning, afternoon, and evening. All messages were updated hourly, and if conditions demanded, more frequently. The new system contained the capability to request meteorological and aeronautical information from the Weather Message Switching Center (WMSC) for incorporation into the PATWAS message.

The trial PATWAS provides the following information:

1. Flight precautions,
2. Winds aloft,
3. Synopsis,
4. Area or route forecasts,
5. Terminal forecasts,
6. Hourly observations from selected locations, and
7. NOTAM's pertaining to flight safety or the use of aeronautical facilities at these locations.

Prior to the installation of the trial PATWAS, the only PATWAS service provided in the NYC metropolitan area was that offered by the La Guardia Weather Service Office (LGA WSO). This basic PATWAS system provided a two-line access for calls originating in the local area (toll-free) and "message unit" toll calls from other areas on Long Island. In addition, a foreign exchange line provided toll-free access to the same announcement from the Teterboro, New Jersey, area. These services remained operational during trial PATWAS testing.

The content of the basic PATWAS message was limited to a generalized forecast for New York City and vicinity and a synopsis report. No route information was provided, nor hourly weather, specific flight precautions, terminal forecasts, or NOTAM's. AIRMET's were not specific. The message contained only general information on wind. No specific heights were included. Recordings were updated three times a day.

Initially, pilots learned of the availability of the new trial PATWAS through the basic PATWAS recording, which also remained operational throughout the testing period. (The terms "basic" and "trial" PATWAS have been used in lieu of "old" and "new" PATWAS, since the terms "old" and "new" are prejudicial.)

The trial PATWAS was evaluated in a number of ways as shown in table 1-1. One of the principal methods of evaluation consisted of a questionnaire that was mailed to all pilots registered with the General Aviation District Offices (GADO's) in Farmingdale, New York, and Teterboro, New Jersey (table 1-2). Approximately 26,000 pilots received the questionnaire. The questionnaire was designed to measure the degree in which the trial PATWAS satisfied the flight planning needs of the respondents and to determine if it constituted a significant improvement over the basic PATWAS. Appropriate follow-up efforts were made to obtain an input from nonrespondents to the primary questionnaire. In addition, a supplemental survey of 3,152 volunteer pilots was taken to measure pilot reaction to the trial PATWAS after recurrent use of the system. It was hypothesized that the supplemental survey would provide weightier opinions on the acceptability and effectiveness of the trial PATWAS.

The test procedures and time periods during which they occurred are listed in table 1-3.

TABLE 1-1. SUMMARY OF DATA COLLECTION METHODS

No.	System Response		Source of Data		What the Data are Expected to Show	Comment
	Type	Method of Measuring	Organization	Procedure		
1	User Acceptance	No. of completed phone calls (Objective)	N.Y. Bell Tel. Co.	Counter on phone lines	Increased number of calls indicates pilot acceptance since they are actually using the system more	Long term trends in demand, seasonal, and weather variations must be taken into account
2	User Acceptance, FSS workload	No. briefings given per month (Objective)	F.S.S. Supervisors and Briefers	Monthly record of briefings given	Decrease in number of briefings	Same as above
3	User Acceptance	Questionnaire sent by FAA (i.e., pilot opinion) (Subjective)	NAFEC contact pilots	Mailed questionnaire	Pilot reactions to trial as compared with basic PATWAS, judgement of acceptability of various aspects	
4	User Acceptance	Post-Flight Contact with Stratified Sample (Subjective)	NAFEC contact pilots	Phone and mail contact with selected sample of pilots	Superiority of trial PATWAS as compared with basic; acceptability of changes in content, form, or format, and schedule	
5	System Line Loading	Time on line after contact (Objective)	NAFEC	Print-out from timer on line	Whether or not "barge-in" is troublesome	Comparison of time on line with actual message length reveals extent to which requestor listens to more than one cycle of message
6	WSO workload	Workload changes (Subjective)	W.S.O. Supervisors and Operators, PATWAS test personnel	Workload determined from supervisory judgment, operator opinion, and observations by test personnel	One operator can handle workload so that there is no increase in personnel required to operate trial PATWAS	
7	Equipment/procedural adequacy	Direct observation (Subjective)	NWS Supervisors and Operators, PATWAS test personnel	Expert opinion and operator judgement	Nature of changes (if any) required in equipment and/or procedures	

TABLE 1-2. COUNTIES OF RESIDENCE AND AIRPORTS INCLUDED IN  
NYC PATWAS TEST

Counties of Residence\*

New Jersey

Passaic

Hunterdon

Hudson

Bergen

Middlesex

Morris

Somerset

Essex

Union

Sussex

Mercer

Monmouth

New York

Queens

Manhattan

Brooklyn

Nassau

Bronx

Richmond

Westchester

Orange

Suffolk

Sullivan

Rockland

Putnam

Dutchess

Ulster

Airports\*\*

Morristown

Teterboro

Newark

La Guardia

J. F. Kennedy

Farmingdale

Islip

White Plains

\*Included all personnel registered with the General Aviation District Office (GADO) at Farmingdale and Teterboro.

\*\*Includes NYC area airports with FAA control towers.



TABLE 1-3. TEST PROCEDURES AND AFFECTED TIME PERIODS

Time Period		<u>Test Procedure</u>
<u>Starting</u>	<u>Ending</u>	
Prior to	April 1975	Planning and Design
April 1975	May 1975	Equipment procurement
June 1975	July 1975	Equipment installation and checkout
July 24, 1975	to present	Equipment operational
August 1975	July 1976	Gather 12-month period of data for the following activities: PATWAS, FSS/WSO briefings, itinerant aircraft departures
November 1975	December 1975	Distribute announcements of test and descriptive material
May 1976	June 1976	Initial distribution of questionnaire
August 1976	September 1976	Follow-up distribution of questionnaire
August 1976	August 1976	Distribution of supplementary evaluative material
During November 1976		Telephone contact with selected nonrespondents
April 1976	October 1976	Determination of PATWAS message length, user time on line, and weather day
	November 30, 1976	Date data collection ended.



## PATWAS CONTACTS, FSS/WSO BRIEFINGS, AND AIRCRAFT OPERATIONS

This section contains the detailed material upon which the volume I section entitled PATWAS CONTACTS AND FSS/WSO BRIEFINGS is based. The information presented reflects the summation of various categories of FAA/WSO data and the aircraft operations data for the eight airports: Newark, Morristown, Teterboro, Farmingdale, White Plains, Islip, JFK, and La Guardia. The detail is presented here to facilitate a replication of the analysis and interpretation of the data presented in volume I.

The table 2-1 data for 1971 were derived, since only the total for the year was available. January 1970 was also derived, since the actual value was unavailable. The method employed to obtain the missing values by interpolation from known data was developed from a discussion in Winer, "Statistical Principles in Experimental Design," McGraw-Hill, 1962, pp. 281-283. Myers, "Fundamentals of Experimental Design," Allyn and Bacon, 2nd ed., 1972, p. 171 and Goulden "Methods of Statistical Analysis," Wiley, 2nd ed., 1952, p. 318 also discuss methods of dealing with missing data. Although the source was not employed in this instance, Finn's "A General Model for Multivariate Analysis," Holt, Rinehart & Winston, 1974, practice of estimating missing data points without specific comment regarding methodology testifies to the general acceptability of this device for enhancing the value of a body of data.

TABLE 2-1. NUMBER OF BASIC PATWAS CONTACTS

Month	Year						
	1970	1971	1972	1973	1974	1975	1976
January	(2,607)*	(2,856)	3,965	3,275	3,279	3,990	1,466
February	2,523	(2,978)	4,101	3,632	3,499	3,665	1,146
March	2,817	(3,046)	3,498	4,097	4,029	3,844	1,329
April	2,528	(2,687)	2,809	3,469	3,571	4,066	1,222
May	2,723	(2,940)	2,868	4,490	3,526	4,177	1,507
June	2,888	(3,554)	4,492	4,958	4,182	4,754	1,745
July	3,409	(3,323)	3,300	4,613	3,926	4,516	1,359
August	2,621	(2,960)	2,723	4,331	4,068	2,961	-
September	2,425	(2,764)	3,025	3,621	3,722	2,226	-
October	2,539	(2,553)	3,338	2,760	3,013	1,832	-
November	2,316	(2,570)	3,685	2,848	2,949	1,624	-
December	2,750	(2,768)	3,861	3,082	2,927	1,709	-

\* All numbers in parentheses are derived. Actual data are missing.

Before	After
Trial PATWAS Activation	

TABLE 2-2. NUMBER OF LA GUARDIA TELEPHONE PILOT BRIEFINGS

Month	Year				
	1972	1973	1974	1975	1976
January	-	1,354	1,712	1,606	1,233
February	-	1,438	1,626	1,362	1,038
March	-	1,660	1,853	1,554	1,368
April	1,467	1,744	1,729	1,425	1,126
May	1,614	2,257	1,972	1,896	1,443
June	2,344	2,687	2,320	2,177	1,698
July	1,978	2,358	2,017	2,270	1,720
August	1,648	2,248	2,364	1,824	
September	1,947	1,750	1,816	1,476	
October	1,664	1,662	1,381	1,446	-
November	1,860	1,665	1,637	1,382	-
December	2,106	1,585	1,520	1,281	-
Before				After	
Trial PATWAS Activation					

TABLE 2-3. NUMBER OF LA GUARDIA PERSONAL PILOT BRIEFINGS

Month	Year						
	1970	1971	1972	1973	1974	1975	1976
January	-	757	722	582	768	576	565
February	-	766	777	604	618	535	465
March	-	845	876	669	622	466	645
April	-	711	659	549	606	493	466
May	-	815	677	633	752	569	544
June	-	883	859	725	692	623	642
July	736	786	568	427	508	505	463
August	626	736	704	468	546	444	-
September	822	753	627	511	519	526	-
October	854	741	632	613	509	544	-
November	715	728	603	630	610	542	-
December	753	895	783	718	595	540	-
Before						After	
Trial PATWAS Activation							

TABLE 2-4. NUMBER OF ISLIP PILOT BRIEFINGS

Month	Year				
	1972	1973	1974	1975	1976
January	16,775	14,895	14,126	11,617	10,970
February	15,024	15,060	14,209	10,286	9,920
March	14,975	17,244	16,507	11,488	13,175
April	17,959	17,392	15,438	11,793	13,759
May	19,160	18,445	15,567	14,812	15,508
June	20,112	19,848	16,042	17,803	16,602
July	18,861	20,278	16,378	16,999	18,391
August	18,602	21,090	15,523	14,740	-
September	17,325	15,496	14,357	12,824	-
October	15,720	14,320	13,244	13,446	-
November	17,294	13,664	11,959	12,551	-
December	16,163	12,618	12,758	14,333	-
Before				After	
Trial PATWAS Activation					

TABLE 2-5. NUMBER OF TETERBORO PILOT BRIEFINGS

Month	Year						
	1970	1971	1972	1973	1974	1975	1976
January	11,440	10,668	11,447	10,593	12,340	12,068	10,236
February	11,791	10,802	10,238	11,012	11,245	11,412	9,992
March	14,951	12,137	12,649	12,651	14,375	13,126	12,248
April	13,414	11,732	11,108	11,775	13,317	12,468	11,131
May	16,322	13,239	13,057	14,784	14,889	14,333	13,074
June	15,968	14,447	17,138	16,317	16,969	15,042	13,923
July	16,511	14,844	15,851	15,895	14,878	13,847	14,479
August	14,688	14,153	13,359	16,000	16,057	12,694	-
September	13,560	14,987	12,998	13,470	14,855	11,458	-
October	14,656	15,270	12,132	13,260	13,092	11,962	-
November	13,368	12,533	12,125	13,106	12,477	12,505	-
December	11,602	11,649	11,884	11,539	11,884	11,568	-
Before						After	
Trial PATWAS Activation							

TABLE 2-6. NUMBER OF TRIAL PATWAS CONTACTS

Month	Year						
	-	-	-	-	-	1975	1976
January						-	14,724
February						-	11,882
March						-	12,592
April						-	10,950
May						-	12,652
June						-	16,547
July						1,148	15,031
August						6,101	-
September						5,312	-
October						5,668	-
November						5,535	-
December						19,365	-

TABLE 2-7. GENERAL AVIATION ITINERANT OPERATIONS  
EWR, MMU, TEB, FRG, HPN, ISP, JFK, LGA

<u>Month</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
January	51,252	49,637	48,549	56,784	46,235	49,087	46,546
February	50,991	47,237	38,444	50,652	45,030	49,948	52,784
March	61,979	57,744	52,607	51,671	53,367	57,181	59,293
April	66,213	65,853	60,182	59,330	64,653	64,265	65,483
May	69,422	66,674	61,308	62,778	66,914	68,434	66,945
June	69,147	74,294	53,248	57,479	63,620	64,772	66,987
July	64,597	73,511	65,391	68,089	72,622	67,058	
August	72,004	74,043	68,970	63,608	67,234	67,334	
September	63,511	62,121	56,712	66,477	61,468	62,712	
October	63,174	63,081	65,217	69,574	74,275	70,231	
November	55,363	58,229	53,384	59,113	60,004	66,600	
December	46,624	52,535	36,866	46,329	51,289	52,038	
TOTAL	734,277	744,959	660,878	711,884	726,711	739,660	358,038



MULTIVARIATE ANALYSIS OF VARIANCE  
(QUESTION 10--COMPARISON BETWEEN BASIC PATWAS AND TRIAL PATWAS)

This section contains the results of the multivariate analysis of variance of question 10 using the responses from the initial and follow-up returns. The highlights of the findings are presented in the volume I section entitled PILOT SURVEY.



UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE, COVARIANCE, AND REGRESSION

PROGRAM VERSION 5.3 DISTRIBUTED BY

INTERNATIONAL EDUCATIONAL SERVICES  
P.O. BOX 43850  
CHICAGO, ILLINOIS 60690  
(312) 464-4920

THIS COPY AUTHORIZED FOR USE ONLY BY:

U.S. FEDERAL AVIATION ADMINISTRATION

NAFEC

ATLANTIC CITY, N.J. 08405

ON THE

IRW 36C/502C

PROGRAM COPYRIGHT HELD BY NATIONAL EDUCATIONAL RESOURCES, INC., 1972  
DISTRIBUTION OR USE UNAUTHORIZED BY NATIONAL EDUCATIONAL RESOURCES, INC. IS PROHIBITED.

## ANALYSIS OF PATHWAYS QUESTIONNAIRE - QUESTION 10

PAGE 1

PAGE 2

### INPUT PARAMETERS

NUMBER OF VARIABLES IN INPUT VECTORS= 17

NUMBER OF FACTORS IN DESIGN =

NUMBER OF LEVELS OF	FACTOR 1	L/RATING
NUMBER OF LEVELS OF	FACTOR 2 (ENGINES)	=
NUMBER OF LEVELS OF	FACTOR 3 (TOTALFLY)	=
NUMBER OF LEVELS OF	FACTOR 4 (ANNUAL FLY)	=
NUMBER OF LEVELS OF	FACTOR 5 (GACC)	=
NUMBER OF LEVELS OF	FACTOR 6 (POWERPNT)	=
NUMBER OF LEVELS OF	FACTOR 7 (OLD USE)	=
NUMBER OF LEVELS OF	FACTOR 8 (NEW USE)	=

INPUT IS FROM CAPS. DATA OPTION 2

MINIMAL PAGE SPACING WILL BE USED

FORMAT OF DATA  
(56X.17F1.0)

## FIELD PRESERVATION

[illegible]

## CELL IDENTIFICATION AND FREQUENCIES

PAGE 3

C.F.I.I. FACTOR IFVFLS

FILE	FACTOR LEVELS	TOTALLY	ANNUALLY	CADD	POWERPT	OLD USE	NEW USE
1	1	1	1	1	1	1	1
EMPTY	1	1	1	1	1	1	1
2	1	1	1	1	1	2	2
3	1	1	1	1	1	2	2
EMPTY	1	1	1	1	1	1	1
EMPTY	1	1	1	1	2	1	2
EMPTY	1	1	1	1	2	2	1
EMPTY	1	1	1	1	2	2	2

3-4

3-5



3-7





43	3.510638	3.361702	3.216556	3.516638	3.315145	3.361702	3.127663	3.148936	3.306383	3.063830
44	3.700000	3.200000	3.360000	3.540000	3.160000	3.160000	2.860000	3.060000	2.960000	2.980000
45	3.285714	3.100000	3.285714	3.182857	3.182857	2.714286	2.857143	3.333333	3.333333	2.714286
46	3.666667	3.466667	3.566667	3.666667	3.333333	3.333333	3.166667	3.333333	3.300000	3.300000
47	3.218750	3.312500	3.125000	3.000000	3.125000	2.968750	2.000000	2.568750	2.906250	3.000000
48	3.529412	3.647059	3.116471	3.529412	3.116471	3.470588	3.352941	3.352941	3.529412	3.529412
49	3.636364	3.363636	3.181818	3.545455	2.000000	3.363636	2.272727	3.454545	3.454545	3.181818
50	3.933333	3.666667	3.733333	3.666667	3.533333	3.733333	3.466667	3.466667	3.533333	3.600000

CPREVID CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCFC	SUPDFC	SATRF	ORNFU	MESLN	QUALV	AMTNY	SPKGRA	PMPCON
51	3.500000	3.000000	3.000000	3.000000	2.000000	3.000000	3.500000	3.000000	3.500000	3.000000
52	4.000000	4.000000	4.000000	4.000000	4.000000	3.000000	3.000000	3.000000	4.000000	4.000000
53	3.454545	3.000000	3.090909	3.181818	3.181818	3.409091	3.454545	2.272727	3.318182	3.136364
54	3.652338	3.384615	3.307692	3.415789	3.317692	3.384615	2.461538	2.861538	3.153846	3.000000
55	3.200000	3.600000	3.400000	3.500000	3.200000	3.200000	3.400000	3.400000	3.400000	3.400000
56	3.250000	3.500000	3.250000	3.400000	3.000000	3.250000	2.000000	2.300000	3.000000	3.500000
57	3.354167	3.145833	3.416667	3.437500	2.251667	3.208333	2.251667	3.166667	3.104167	3.208333
58	3.533750	2.511250	3.375000	3.637500	3.187500	3.218750	3.187500	2.512500	3.000000	3.187500
59	3.545455	2.518182	3.363636	3.618182	3.545455	3.545455	3.181818	2.272727	3.000000	3.454545
60	3.526316	3.263158	3.447368	3.500000	3.394737	3.315789	2.263158	2.263158	3.236842	3.157895
61	3.500000	3.000000	3.500000	3.500000	4.000000	3.500000	3.000000	3.000000	3.000000	3.500000
62	3.000000	3.033333	3.033333	3.000000	4.000000	4.000000	3.000000	3.000000	3.000000	3.000000
63	3.444444	2.277778	3.611111	3.666667	3.000000	3.000000	2.777778	3.055556	3.133333	3.000000
64	3.700000	3.400000	3.400000	3.400000	3.500000	3.100000	3.600000	3.100000	3.100000	3.000000
65	3.600000	3.200000	3.200000	3.350000	3.350000	3.300000	3.100000	3.250000	3.100000	3.100000
66	4.000000	3.000000	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
67	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
68	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
69	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
70	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
71	4.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
72	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000
73	3.750000	3.750000	3.750000	3.750000	3.750000	3.750000	3.750000	3.750000	3.750000	3.750000
74	3.600000	3.600000	3.600000	3.600000	3.600000	3.600000	3.600000	3.600000	3.600000	3.600000
75	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
76	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
77	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
78	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
79	3.600000	3.200000	3.800000	3.166667	3.000000	3.300000	2.100000	2.916667	3.333333	3.333333
80	3.111111	3.000000	3.272222	3.722222	3.333333	2.555556	2.666667	2.777778	2.666667	3.222222
81	3.333333	3.416667	3.250000	3.500000	3.333333	2.833333	3.333333	3.333333	3.333333	3.333333
82	3.000000	3.333333	3.333333	3.333333	3.333333	3.333333	3.000000	3.000000	3.333333	3.333333
83	4.000000	3.000000	4.000000	4.000000	4.000000	2.000000	3.000000	3.000000	3.000000	3.000000
84	2.000000	3.000000	4.000000	4.000000	3.000000	2.000000	3.000000	3.000000	3.000000	4.000000
85	3.166667	2.333333	3.166667	3.166667	2.666667	3.166667	2.333333	2.750000	2.750000	3.166667
86	4.000000	2.666667	3.333333	2.666667	2.333333	2.666667	2.333333	2.333333	2.666667	2.666667
87	4.000000	3.333333	3.333333	4.000000	3.666667	4.000000	3.666667	3.666667	3.333333	3.666667
88	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
89	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000
90	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
91	3.563480	2.555556	3.362821	3.455556	3.400000	3.042254	3.042254	3.042254	3.042254	3.295775
92	3.666667	2.250000	3.500000	3.622222	3.384615	3.461538	2.546727	3.254672	3.254672	3.254672
93	3.370370	3.250000	3.250000	3.181818	3.181818	3.222222	3.222222	3.222222	3.222222	3.370370
94	3.815217	2.478261	3.663043	3.534798	3.554343	3.445455	3.534798	3.534798	3.242636	3.456522

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCNF	SUPDEC	SATERF	CRONF	MESLEN	QUALVY	AMTNYZ	SPKGRA	PMPCON
95	3.411111	3.233333	3.333333	3.555556	3.222222	3.388889	3.111111	3.333333	3.333333	3.222222
96	3.588235	3.475588	3.235294	3.529412	2.832353	2.941176	3.176471	3.254118	3.117647	3.117647
97	2.800000	2.200000	2.200000	2.200000	2.800000	3.100000	3.000000	3.200000	2.600000	3.000000
98	3.000000	3.000000	3.200000	3.200000	3.300000	3.400000	3.600000	3.500000	3.000000	3.100000
99	3.504804	3.215294	3.156863	3.156863	3.156863	3.078431	3.038039	3.156378	3.038824	3.156863
100	3.755556	3.466667	3.644444	3.640000	3.486889	3.555556	3.222222	3.222222	3.333333	3.422222
101	3.525412	3.235294	3.294118	3.588235	3.470588	3.411765	3.411765	3.411765	3.352594	3.235294
102	3.796296	3.500000	3.625630	3.740741	3.470427	3.666667	3.518519	3.481481	3.351842	3.518519
103	3.307692	3.230769	3.461538	3.307692	3.230769	3.153846	3.153846	3.153846	3.153846	3.153846
104	3.076923	3.076923	3.384615	3.230769	3.461538	3.153846	3.153846	3.076923	3.076923	3.076923
105	3.200000	3.200000	3.400000	3.200000	3.200000	3.200000	3.200000	3.200000	3.200000	3.200000
106	3.714286	3.642857	3.571429	3.757143	3.642857	3.500000	3.500000	3.428571	3.257143	3.500000
107	1.500000	2.000000	1.500000	1.500000	2.000000	1.500000	3.000000	4.000000	3.000000	4.000000
108	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
109	3.750000	3.250000	3.000000	3.750000	2.500000	2.500000	2.250000	3.000000	2.000000	3.500000
110	3.888889	3.666667	3.888889	3.888889	3.444444	3.222222	3.333333	3.666667	3.222222	3.666667
111	3.636364	3.272727	3.818182	3.181818	3.000000	3.181818	3.454545	3.363636	3.454545	3.454545
112	4.000000	3.750000	4.000000	4.000000	3.750000	3.500000	3.500000	3.500000	3.500000	3.500000
113	4.000000	3.500000	3.750000	4.000000	3.500000	3.750000	3.500000	3.500000	3.500000	3.500000
114	4.000000	3.250000	3.750000	4.000000	3.500000	3.750000	3.500000	3.250000	3.500000	3.250000
115	3.714286	3.571429	3.500000	3.750000	3.500000	3.571429	2.500000	3.428571	3.714286	3.714286
116	3.800000	3.550000	3.600000	3.750000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000
117	4.000000	3.750000	4.000000	4.000000	3.500000	3.500000	2.500000	3.500000	3.500000	3.500000
118	3.714286	3.428571	3.357143	3.671429	3.428571	3.600000	3.142857	3.300000	3.300000	3.285714
119	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
120	3.625000	3.375000	3.375000	3.500000	3.250000	3.625000	2.625000	3.625000	3.500000	3.500000
121	3.800000	3.400000	3.700000	3.500000	3.600000	3.800000	2.400000	3.600000	3.500000	3.500000
122	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
123	3.833333	3.166667	3.750000	3.666667	3.333333	3.416667	2.416667	3.250000	3.166667	3.166667
124	3.284118	3.000000	3.755882	3.176471	2.000000	2.647059	2.764706	2.588235	2.705882	2.764706
125	3.500000	3.000000	3.000000	3.214286	3.071429	3.000000	3.071429	3.000000	2.714286	3.257143
126	3.666667	2.666667	3.666667	3.833333	3.333333	3.333333	3.500000	3.000000	2.833333	3.500000
127	3.733333	2.733333	3.666667	3.800000	3.533333	3.533333	3.000000	3.266667	3.333333	3.333333
128	4.000000	2.000000	3.500000	4.000000	3.500000	3.500000	3.000000	3.000000	3.500000	3.000000
129	4.000000	3.333333	2.333333	4.000000	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333
130	3.800000	2.600000	3.600000	3.800000	3.800000	3.800000	3.600000	3.400000	3.400000	3.600000
131	3.857143	3.257143	3.428571	4.000000	3.571429	3.333333	3.257143	3.257143	3.000000	3.142857
132	3.583744	3.235294	3.355556	3.623238	3.333333	3.333333	3.256413	3.128205	3.128205	3.282051
133	3.720930	3.312093	3.627907	3.730658	3.451116	3.651116	3.488372	3.348837	3.325531	3.588140
134	4.000000	2.538462	3.538462	3.765231	3.615385	3.692304	3.769231	3.538462	3.384615	3.615385
135	3.794571	3.451515	3.615385	3.765231	3.581644	3.616433	3.397260	3.260274	3.301370	3.452055
136	2.500000	2.500000	3.000000	3.000000	2.500000	2.500000	2.500000	2.500000	2.500000	2.500000
137	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
138	3.764474	3.210526	3.421053	3.847105	3.368421	3.631579	2.473684	3.421053	3.315789	3.368421
139	3.641818	3.590509	3.641818	3.643636	3.403030	3.636364	2.518182	3.272727	3.363636	3.640909
140	3.625000	3.125000	3.437500	3.625000	3.562500	3.375000	2.500000	3.500000	3.375000	3.500000
141	3.750000	3.416667	3.527778	3.717778	3.583333	3.722222	2.527778	3.388889	3.416667	3.500000
142	3.666667	2.333333	3.333333	3.666667	3.333333	2.666667	2.666667	3.000000	2.666667	3.000000

OBSERVED CELL MEANS --- PCMS ARE CELLS-COLUMNS ARE VARIABLES

OBSERVED CELL MEANS --- PCMS ARE CELLS-COLUMNS ARE VARIABLES

	11	12	13	14	15	16	17
	MINDLE	PINTA	FZCAMP	USFNC	RESPND	CLRPIC	UNNFO
1	3.833333	3.666667	3.666667	3.500000	3.666667	3.666667	2.166667
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	2.500000
4	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	2.000000
5	2.000000	2.000000	2.000000	2.000000	2.000000	2.000000	2.000000
6	2.600000	2.600000	2.600000	2.600000	2.600000	2.600000	2.800000
7	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	4.000000
8	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
9	2.000000	2.000000	2.000000	2.000000	2.000000	2.000000	4.000000
10	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	3.500000
11	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
12	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
13	3.666667	3.666667	3.666667	3.666667	3.666667	3.666667	3.666667
14	3.200000	3.200000	3.200000	3.200000	3.200000	3.200000	4.000000
15	3.400000	3.400000	3.400000	3.400000	3.400000	3.400000	2.400000
16	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
17	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
18	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
19	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
20	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333
21	3.200000	3.200000	3.200000	3.200000	3.200000	3.200000	2.800000
22	3.571429	3.571429	3.571429	3.571429	3.571429	3.571429	3.571429
23	3.181818	3.181818	3.181818	3.181818	3.181818	3.181818	3.181818
24	3.400000	3.400000	3.400000	3.400000	3.400000	3.400000	3.400000
25	3.166667	3.166667	3.166667	3.166667	3.166667	3.166667	3.166667
26	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000
27	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333
28	3.543860	3.543860	3.543860	3.543860	3.543860	3.543860	3.543860
29	3.515152	3.515152	3.515152	3.515152	3.515152	3.515152	3.515152
30	3.666667	3.666667	3.666667	3.666667	3.666667	3.666667	3.666667
31	2.000000	2.000000	2.000000	2.000000	2.000000	2.000000	2.000000
32	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
33	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333
34	3.400000	3.400000	3.400000	3.400000	3.400000	3.400000	3.400000
35	3.636364	3.636364	3.636364	3.636364	3.636364	3.636364	3.636364
36	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
37	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
38	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
39	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
40	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
41	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
42	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
43	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
44	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
45	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
46	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
47	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
48	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571
49	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426	3.274426
50	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571	3.678571

RESERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES



	11	12	13	14	15	16	17
	MINPE	MININ	EZCMP	USEFO	RESPND	CLRPIC	UNNFO
51	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
52	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
53	3.454545	3.272727	3.181818	3.363636	3.131818	3.227273	3.272727
54	3.384615	3.538462	3.307692	3.598462	3.538462	3.337692	3.846154
55	3.600000	3.400000	3.400000	3.400000	3.400000	3.200000	3.400000
56	3.000000	3.000000	3.500000	3.000000	3.500000	3.500000	2.750000
57	3.458333	3.166667	3.354167	3.354167	3.354167	3.437500	2.979167
58	3.512500	3.281250	3.187500	3.363636	3.500000	3.315000	3.363636
59	3.727273	3.421053	3.263158	3.526316	3.526316	3.500000	2.236842
60	3.578947	3.421053	3.263158	3.526316	3.526316	3.500000	2.000000
61	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
62	3.066667	3.100000	3.033333	3.033333	3.033333	3.033333	3.000000
63	3.066667	3.100000	3.033333	3.033333	3.033333	3.033333	3.000000
64	3.444444	2.944444	2.944444	3.444444	3.444444	3.777778	2.500000
65	3.500000	3.400000	3.500000	3.400000	3.500000	3.500000	3.000000
66	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
67	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
68	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
69	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
70	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
71	3.750000	3.400000	3.500000	3.400000	3.500000	3.400000	3.500000
72	3.000000	3.200000	3.200000	3.200000	3.200000	3.200000	3.200000
73	3.600000	3.200000	3.200000	3.600000	3.600000	3.600000	3.600000
74	3.000000	3.200000	3.200000	3.200000	3.200000	3.200000	3.200000
75	3.666667	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333
76	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
77	3.250000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
78	3.600000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
79	3.111111	3.222222	3.222222	3.222222	3.222222	3.222222	3.222222
80	3.333333	3.166667	3.166667	3.166667	3.166667	3.166667	3.166667
81	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333	3.333333
82	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
83	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
84	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
85	3.250000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
86	3.666667	3.666667	3.666667	3.666667	3.666667	3.666667	3.666667
87	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
88	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
89	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000
90	3.464785	3.157183	3.253521	3.479335	3.507042	3.523344	3.500000
91	3.464785	3.157183	3.253521	3.479335	3.507042	3.523344	3.500000
92	3.464785	3.157183	3.253521	3.479335	3.507042	3.523344	3.500000
93	3.464785	3.157183	3.253521	3.479335	3.507042	3.523344	3.500000
94	3.706522	3.434783	3.467351	3.815217	3.673313	3.728261	3.402174
95	3.222222	3.277778	3.222222	3.388889	3.222222	3.277778	2.111111
96	3.352541	3.000000	3.176471	3.352541	3.475888	3.235294	2.541176
97	3.400000	3.200000	3.400000	2.800000	3.200000	3.200000	1.800000
98	3.100000	3.200000	3.100000	3.200000	3.200000	3.100000	2.800000
99	3.313725	3.254502	3.236294	3.352941	3.323333	3.254302	3.117547
100	3.711111	3.644444	3.644444	3.711111	3.711111	3.688889	3.366667

CREATED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES



	1	2	3	4	5	6	7	8	9	10
	AMTNEF	ACCNEF	SUPDEC	SATREF	DRDNF	MESLEN	QUALVY	AMTNYZ	SPKGRPA	PPPCON
101	3.529412	3.111647	3.294118	3.529412	3.252541	3.235294	3.000000			
102	3.529412	3.555556	3.518515	3.752599	3.655155	3.666367	3.055556			
103	3.076923	2.884615	3.038462	3.765231	3.038462	3.230769	3.076923			
104	3.000000	2.523077	3.307692	3.384615	3.307692	3.384615	3.000000			
105	3.200000	2.800000	3.000000	3.000000	3.000000	2.600000	3.200000			
106	3.785714	3.642857	3.785714	3.857143	3.642857	3.357143	3.071429			
107	4.000000	4.000000	2.000000	3.000000	3.500000	3.500000	3.500000			
108	4.000000	3.500000	4.000000	4.000000	4.000000	4.000000	4.000000			
109	3.250000	3.500000	3.000000	3.500000	3.250000	3.250000	3.500000			
110	3.888889	3.555556	3.666667	3.988889	4.000000	3.777778	3.111111			
111	3.090909	2.909091	3.454545	3.636364	3.343636	3.090909	2.727273			
112	4.000000	3.750000	3.500000	3.750000	4.000000	4.000000	3.250000			
113	4.000000	3.750000	3.500000	3.750000	4.000000	4.000000	3.250000			
114	3.750000	3.250000	3.250000	3.628887	3.000000	3.750000	3.250000			
115	3.500000	3.500000	3.500000	3.628887	3.000000	3.500000	3.500000			
116	3.750000	3.550000	3.400000	3.600000	3.750000	3.600000	3.000000			
117	3.000000	3.000000	2.750000	3.000000	3.000000	3.000000	3.000000			
118	3.857143	3.500000	3.428571	3.857143	3.735714	3.714286	3.285714			
119	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000			
120	3.750000	3.500000	3.500000	3.625000	3.500000	3.500000	3.375000			
121	3.750000	3.500000	3.500000	3.625000	3.500000	3.500000	3.375000			
122	3.750000	3.500000	3.500000	3.625000	3.500000	3.500000	3.375000			
123	3.583333	3.333333	3.333333	3.666667	3.666667	3.583333	3.250000			
124	3.235294	3.056224	2.882353	3.117647	3.176471	3.176471	2.529412			
125	3.214286	3.071429	3.071429	3.214286	3.214286	3.142857	2.785714			
126	3.666667	3.000000	3.333333	3.666667	3.500000	3.433333	2.500000			
127	3.733333	3.666667	3.600000	3.666667	3.500000	3.733333	3.066667			
128	3.500000	3.500000	3.000000	3.500000	4.000000	3.500000	3.500000			
129	3.000000	4.000000	3.600000	3.666667	3.333333	3.000000	3.000000			
130	3.812500	3.600000	3.600000	3.812500	3.600000	3.812500	3.600000			
131	3.511429	3.384615	3.153846	3.857143	3.714286	3.511429	3.285714			
132	3.512821	3.511628	3.511628	3.471179	3.585744	3.564103	3.076923			
133	3.744186	3.692308	3.615353	3.813553	3.657674	3.720930	3.302326			
134	3.846154	3.520348	3.534747	3.712329	3.846154	3.846154	3.150685			
135	3.600000	3.000000	3.000000	3.000000	3.000000	3.000000	3.000000			
136	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000			
137	3.578947	3.157855	3.473484	3.631579	3.526316	3.736842	3.315785			
138	3.590909	3.545455	3.409091	3.681818	3.590909	3.500000	3.318182			
139	3.675000	3.562500	3.500000	3.562500	3.625000	3.625000	3.187500			
140	3.750000	3.361111	3.555556	3.654444	3.750000	3.666667	3.277778			
141	3.000000	3.333333	3.333333	3.666667	3.666667	3.666667	2.666667			
142										

RESERVED CELL STD DEVS—ROWS ARE CELLS—COLUMNS VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNEF	ACCNEF	SUPDEC	SATREF	DRDNF	MESLEN	QUALVY	AMTNYZ	SPKGRPA	PPPCON
1	1.022796	0.436660	0.516358	0.516358	0.516358	0.547723	0.547723	0.547723	0.516358	0.752773
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.414214	1.414214	0.707107	0.0	0.0	0.0	0.0	0.0	1.414214	1.414214
4	0.0	0.0	0.707107	0.0	0.0	0.0	0.0	0.0	0.707107	0.707107
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	1.000000	0.447214	0.547723	0.436660	0.436660	0.130384	1.303840	1.303840	0.447214	0.547723
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.707107	0.0	0.707107	1.414214	0.0	2.121320	2.828427	2.828427	2.121320	2.828427

	1	2	3	4	5	6	7	8	9	10
	AMTFCN	ACCFCN	SUPDFC	SATBFC	CRKFCN	MESLEN	CUALVY	AMTVZ	SPKGRA	PMPCON
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

----- RESERVED CELL STD DEVS--FCBS AFF CELLS--COLUMN VARIATION

	1	2	3	4	5	6	7	8	9	10
	AMTNEF	ACCNEC	SUPDEC	SATREF	ORONFO	MESLEN	CUALVY	AMTNYZ	SPKGRA	PMPCON
62	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
66	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

UNRESERVED CELL STD DEVS--FOMS ARE CELLS-COLUMNS VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNEF	ACCNEC	SUPDEC	SATREF	ORONFO	MESLEN	CUALVY	AMTNYZ	SPKGRA	PMPCON
101	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
103	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
104	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
109	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
111	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
113	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





24	1.250454	1.250454	1.221028	1.250454	1.261817	1.328020	1.348400
25	0.547723	0.547723	0.547723	0.0	0.0	0.547723	0.447214
26	0.583192	0.583192	0.983192	0.583192	0.583192	0.583192	0.632456
27	0.707107	0.707107	2.121320	2.828427	C.0	0.707107	2.828427
28	0.953504	1.080784	0.924562	0.924562	0.924562	0.924562	0.939646
29	0.842881	0.515502	0.740357	0.616859	0.831196	0.769849	0.927131
30	0.667140	0.870388	0.690025	0.662668	0.708445	0.618527	0.722955
31	0.740555	0.510064	0.652557	0.753558	0.737439	0.649007	1.148964
32	2.828427	2.828427	1.414214	0.707107	0.707107	0.0	1.148964
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.842881	1.080784	0.924562	0.616859	0.831196	0.769849	0.927131
35	1.044231	1.080784	0.814842	1.150603	1.080784	1.046168	1.076055
36	0.581087	1.170525	0.492366	0.646335	0.726731	0.580326	0.922307
37	0.862565	0.862565	0.862565	0.475555	0.862565	0.475555	0.862565
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	1.010565	1.010565	0.944555	0.922234	1.003319	0.857143	0.999527
40	1.641433	0.705911	0.700610	0.757062	0.665478	0.623671	0.818590
41	0.836660	0.547723	0.547723	0.836660	0.547723	0.836660	0.0
42	0.501218	0.557261	0.782429	0.495558	0.537610	0.574881	0.833740
43	1.183450	1.251139	0.778405	1.044788	0.561433	0.825052	0.914474
44	0.568904	1.113138	0.789988	0.814160	0.814160	0.776176	1.073807
45	0.755279	0.755279	1.812654	1.456026	1.513552	1.443950	1.383131
46	0.534583	0.568321	0.66875	0.534583	0.614948	0.621455	0.727932
47	1.105339	1.288311	1.177423	1.157026	0.574990	0.981687	1.173882
48	1.311712	1.288311	0.507400	0.352453	0.606335	0.437237	0.951306
49	0.677452	0.504525	0.522233	0.674200	0.504525	0.646673	0.646673
50	0.258155	0.457738	0.507053	1.060099	0.457738	0.487953	0.516356

----- OBSERVED CELL STD DEVS--ROWS ARE CELLS--COLUMNS VARIABLES -----

51	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	0.670582	0.572567	0.557892	1.002162	1.220319	1.231794	1.331957
54	0.767448	0.860275	0.751068	0.776250	0.776250	0.854850	1.068188
55	0.547723	0.547723	0.547723	0.854427	0.854427	0.836660	0.994427
56	0.816457	0.816457	0.577450	0.816457	0.577450	0.577450	0.500303
57	0.858186	1.202649	0.807764	0.533154	0.570585	0.649263	1.120212
58	0.875410	1.167656	0.855779	0.875410	0.875410	1.099853	0.846601
59	0.467099	0.504525	0.776245	0.855240	0.667452	0.674223	0.674200
60	0.683061	0.792527	0.759951	0.756457	0.724004	0.762287	0.913350
61	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	0.639684	0.661764	0.718395	0.808717	0.764890	0.758456	0.643266
64	1.041618	1.474179	1.304543	1.043185	1.043185	1.548319	1.543487
65	0.527046	0.516358	0.707107	0.474549	0.655206	0.527046	0.788811
66	0.75337	0.745160	0.686333	0.820783	0.820783	0.825578	0.759155
67	0.0	0.0	0.0	0.0	0.0	0.0	0.0
68	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69	0.707107	0.707107	0.707107	0.707107	0.707107	0.707107	0.707107
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72	0.500000	0.577350	0.500000	0.500000	0.577350	0.533133	0.957427
73	0.0	0.500000	1.732051	0.500000	0.0	0.0	1.732051
74	0.547723	0.447214	0.447214	0.494427	0.894427	0.447214	0.836660
75	0.577350	0.577350	0.0	0.0	0.577350	1.154731	0.577350



76	0.0	0.707107	0.707107	2.828427	C.7C71C7	0.707107	C.7C7107	C.7C7107
77	0.0	C.C	0.0	0.0	0.0	0.0	0.0	0.0
78	1.215431	1.124152	1.114641	1.674466	1.153416	1.153416	1.153416	1.025457
79	0.659206	0.655206	0.674949	0.845837	0.845837	0.845837	0.845837	0.845837
80	0.927561	C.733333	0.666667	1.414214	C.7244F3	0.737137	0.737137	0.500300
81	0.984732	0.834647	0.834647	C.752461	C.752461	0.752461	0.752461	0.937437
82	1.154701	1.154701	1.154701	1.154701	1.154701	1.154701	1.154701	1.154701
83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	1.215431	1.164900	1.082625	1.153416	1.153416	1.153416	1.153416	1.443376
86	2.081666	2.081666	2.081666	2.081666	2.081666	2.081666	2.081666	2.081666
87	0.517350	0.517350	0.0	0.517350	1.154701	0.517350	0.517350	0.517350
88	0.0	C.5C0000	0.5C0000	2.0C0000	0.0	0.0	0.0	0.517350
89	0.707137	0.707107	0.707137	0.707107	C.7C71C7	0.707107	0.707107	0.707107
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91	0.722504	0.582064	0.873316	C.85C012	0.722504	0.722504	0.722504	1.035445
92	0.720284	0.505216	0.637744	0.552016	C.827133	0.712034	0.712034	0.877522
93	0.574022	1.091276	0.902671	C.933700	C.693849	0.901556	0.901556	0.935782
94	0.682114	0.832528	0.776737	0.551689	C.503352	0.515757	0.515757	0.614562
95	1.033253	0.592880	0.646762	0.657892	1.060275	0.669113	0.669113	1.022620
96	1.654464	1.322876	1.074436	1.114741	0.795316	1.147247	1.147247	1.088337
97	0.894427	0.836660	0.894427	1.643168	1.643168	1.643168	1.643168	1.643168
98	0.735555	0.737865	0.737865	0.918937	0.918937	0.918937	0.918937	0.918937
99	0.874424	C.534733	C.930542	0.516187	C.84C635	0.347333	0.347333	0.930528
100	0.548444	0.528456	0.655047	0.510335	C.595581	0.556667	1.053134	1.053134

ORCEIVED CELL STU DENS--FPS ARE CELLS-COLUMNS VARIABLES

101	0.717430	C.600245	0.587868	C.624264	C.606333	0.664211	1.060660	1.060660
102	0.858224	0.651366	0.543466	0.473254	C.722263	0.513956	0.513956	0.919735
103	1.324329	1.275267	1.076319	1.150919	1.313301	1.142194	1.142194	1.128646
104	1.050123	1.037746	0.480384	0.506370	0.490354	0.506370	0.506370	0.577350
105	1.055445	0.836660	0.737137	1.000000	1.055445	0.547723	0.547723	0.707107
106	0.425815	C.457245	0.425815	0.362137	0.633324	1.150728	0.730046	0.730046
107	0.0	C.C	2.828427	1.414214	C.7C71C7	0.707107	0.707107	0.707107
108	0.0	C.517350	0.816437	1.003000	C.957427	0.957427	0.957427	0.957427
109	0.947427	0.527346	0.707137	0.332323	C.707136	0.666667	0.666667	1.031712
110	0.333333	1.174192	0.522232	0.526535	C.805040	0.700649	0.700649	0.500000
111	1.221028	C.5C0000	0.517350	C.5C0000	0.0	0.0	0.0	C.500000
112	0.0	0.500000	0.500000	0.500000	0.0	0.0	0.0	C.500000
113	0.0	C.500000	0.500000	0.500000	0.0	0.0	0.0	C.500000
114	0.500000	C.518475	C.744546	0.744546	0.744546	0.744546	0.744546	0.744546
115	0.444267	C.510418	0.940335	0.554723	C.444262	0.554723	0.554723	0.554723
116	2.000000	2.000000	1.892969	2.000000	2.000000	2.000000	2.000000	1.892969
117	0.534522	0.755555	0.642026	0.534522	C.578534	0.611250	0.611250	0.611250
118	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119	0.462910	C.534522	0.534522	C.534522	C.534522	0.534522	0.534522	1.407886
120	0.483046	0.527346	0.421637	0.421637	C.421637	0.516338	0.516338	0.690206
121	0.500000	C.500000	0.57427	0.0	0.0	0.0	0.0	C.500000
122	0.668558	C.611330	0.492366	1.263974	0.452366	0.668558	0.668558	1.624717
123	1.300452	1.246526	1.263974	1.263974	1.263974	1.333944	1.333944	1.333944
124	1.121714	1.071612	1.071612	1.121714	1.121714	1.099450	1.099450	1.251373
125	C.516354	1.543159	0.516354	C.516354	C.516354	0.438244	0.438244	0.547723
126	0.457738	0.487550	0.507093	0.516166	C.351866	0.457738	0.457738	C.561150
127								

128	0.707107	C.707107	0.0	0.707107	0.0	0.707107	0.707107	0.707107
129	0.0	0.0	1.154701	0.0	0.0	0.0	1.000000	
130	0.487714	C.547723	0.547723	0.0	0.0	1.473168	1.516575	
131	0.534522	C.534522	0.534522	0.0	0.0	1.534522	1.487950	
132	0.720811	C.673380	0.673380	0.0	0.0	0.680359	1.035757	
133	0.720801	C.735886	0.731357	0.0	0.0	0.734380	1.080892	
134	0.725534	C.480384	0.663225	0.0	0.0	0.751068	0.751068	
135	0.525962	0.705256	0.579324	0.0	0.0	0.810885	1.414214	
136	1.414214	1.414214	0.0	0.0	0.0	1.414214	0.0	
137	0.0	0.0	0.0	0.0	0.0	1.002920	0.0	
138	0.466977	1.014515	0.466692	0.0	0.0	0.452414	0.716231	
139	0.756366	0.738449	0.756366	0.0	0.0	0.801784	1.046821	
140	0.622080	0.625153	0.516398	0.0	0.0	0.500000	0.614636	
141	0.584205	1.150224	0.606839	0.0	0.0	0.585540	0.577350	
142	1.000000	C.577350	0.577350	0.0	0.0	0.577350	0.577350	

PAGE 4

DESERVED COMBINED MEANS  
=====

FACTORS 1 (1/RATING)

LEVEL 1  
N = 1481

MEANS  
-----

3-19

ORDNFO = 3.285  
PMPCON = 3.258  
RESPND = 3.476

SATRFF = 3.499  
SPKGRA = 3.142  
CSNFED = 3.504

SUPUEC = 3.413  
AMTHVZ = 3.151  
EZCCMP = 3.291

ACCNFO = 3.257  
QUALVY = 3.176  
MININ = 3.267  
UNNFI = 3.063

AMTNFO = 3.435  
MESLEN = 3.285  
MINDRF = 3.450  
CLDPIC = 3.452

LEVEL 2  
N = 1104

MEANS  
-----

ORDNFO = 3.365  
PMPCON = 3.346  
RESPND = 3.564

SATRFF = 3.604  
SPKGRA = 3.207  
USNFED = 3.575

SUPUEC = 3.483  
AMTHVZ = 3.251  
EZCCMP = 3.374

ACCNFO = 3.356  
QUALVY = 3.283  
MININ = 3.357  
UNNFI = 3.136

AMTNFO = 3.446  
MESLEN = 3.381  
MINDRF = 3.561  
CLDPIC = 3.514

FACTORS 2 (ENGINES)

LEVEL 1  
N = 752

MEANS  
-----

ORDNFO = 3.307  
PMPCON = 3.306  
RESPND = 3.488

SATRFF = 3.507  
SPKGRA = 3.176  
USNFED = 3.516

SUPUEC = 3.430  
AMTHVZ = 3.193  
EZCCMP = 3.342

ACCNFO = 3.359  
QUALVY = 3.157  
MININ = 3.291  
UNNFI = 3.114

AMTNFO = 3.445  
MESLEN = 3.393  
MINDRF = 3.475  
CLDPIC = 3.434

LEVEL 2  
N = 1835

MEANS  
-----

ORDNFO = 3.228  
PMPCON = 3.292  
RESPND = 3.524

SATRFF = 3.559  
SPKGRA = 3.167  
USNFED = 3.544

SUPUEC = 3.449  
AMTHVZ = 3.174  
EZCCMP = 3.370

ACCNFO = 3.316  
QUALVY = 3.232  
MININ = 3.311  
UNNFI = 3.066

AMTNFO = 3.452  
MESLEN = 3.343  
MINDRF = 3.506  
CLDPIC = 3.498

FACTORS 3 (TOTAL FLY)

LEVEL 1  
N = 1217.

MEANS  
-----

AMTNEC = 3.556  
MESLEN = 3.325  
MINDRF = 3.484  
CLRPIC = 3.461

ACCNEC = 3.320  
GUALVY = 3.188  
MININ = 3.293  
UNNEC = 3.076

SUPDEC = 3.463  
AMTYZ = 3.166  
EZCCMP = 3.316

SATBFF = 3.556  
SPKGRA = 3.154  
USFNFC = 3.553

ORDNEC = 3.316  
PMPCON = 3.289  
RESPND = 3.520

LEVEL 2  
N = 1370.

MEANS  
-----

AMTNEC = 3.573  
MESLEN = 3.331  
MINDRF = 3.510  
CLRPIC = 3.465

ACCNEC = 3.325  
GUALVY = 3.251  
MININ = 3.216  
UNNEC = 3.110

SUPDEC = 3.425  
AMTYZ = 3.218  
EZCCMP = 3.336

SATBFF = 3.533  
SPKGRA = 3.183  
USFNFC = 3.521

ORDNEC = 3.327  
PMPCON = 3.301  
RESPND = 3.508

FACTORS 4 (ANIAL FLY)

LEVEL 1  
N = 999.

MEANS  
-----

AMTNEC = 3.464  
MESLEN = 3.291  
MINDRF = 3.455  
CLRPIC = 3.446

ACCNEC = 3.307  
GUALVY = 3.214  
MININ = 3.278  
UNNEC = 3.066

SUPDEC = 3.428  
AMTYZ = 3.159  
EZCCMP = 3.324

SATBFF = 3.516  
SPKGRA = 3.164  
USFNFC = 3.512

ORDNEC = 3.297  
PMPCON = 3.302  
RESPND = 3.500

LEVEL 2  
N = 1589.

MEANS  
-----

AMTNEC = 3.598  
MESLEN = 3.352  
MINDRF = 3.472  
CLRPIC = 3.500

ACCNEC = 3.332  
GUALVY = 3.226  
MININ = 3.323  
UNNEC = 3.111

SUPDEC = 3.452  
AMTYZ = 3.215  
EZCCMP = 3.329

SATBFF = 3.561  
SPKGRA = 3.173  
USFNFC = 3.551

ORDNEC = 3.337  
PMPCON = 3.292  
RESPND = 3.522

FACTORS 5 (GAFI)

LEVEL 1  
N = 1647.

MEANS  
-----

AMTNEC = 3.554  
MESLEN = 3.330  
MINDRF = 3.512  
CLRPIC = 3.498

ACCNEC = 3.320  
GUALVY = 3.214  
MININ = 3.308  
UNNEC = 3.117

SUPDEC = 3.464  
AMTYZ = 3.189  
EZCCMP = 3.337

SATBFF = 3.565  
SPKGRA = 3.157  
USFNFC = 3.545

ORDNEC = 3.335  
PMPCON = 3.324  
RESPND = 3.537

LEVEL 2  
N = 940.

MEANS  
-----

AMTNEC = 3.566  
MESLEN = 3.324  
MINDRF = 3.472  
CLRPIC = 3.446

ACCNEC = 3.310  
GUALVY = 3.234  
MININ = 3.201  
UNNEC = 3.053

SUPDEC = 3.405  
AMTYZ = 3.201  
EZCCMP = 3.339

SATBFF = 3.506  
SPKGRA = 3.153  
USFNFC = 3.521

ORDNEC = 3.299  
PMPCON = 3.247  
RESPND = 3.472

FACTORS 6 (PCWSEPT)

LEVEL 1  
N = 2450.  
MEANS  
-----  
AMTNEO = 3.557 ACCNEO = 3.328 SUPDEC = 3.449 SATBFF = 3.550 ORNEFO = 3.325  
MESLEN = 3.238 DUALVY = 3.225 AMTNVZ = 3.196 SPKCPA = 2.170 PMPCON = 3.330  
MTADRF = 3.512 MININ = 3.215 ECCOMP = 3.332 USFNEO = 3.545 RESPND = 3.527  
CLDPIC = 3.453 UNNEO = 3.100

LEVEL 2  
N = 137.  
MEANS  
-----  
AMTNEO = 3.372 ACCNEO = 3.226 SUPDEC = 3.321 SATBFF = 3.451 ORNEFO = 3.255  
MESLEN = 3.153 DUALVY = 3.153 AMTNVZ = 3.130 SPKCPA = 2.161 PMPCON = 3.219  
MTADRF = 3.249 MININ = 3.131 ECCOMP = 3.234 USFNEO = 3.372 RESPND = 3.277  
CLDPIC = 3.226 UNNEO = 2.578

# FACTORS 7 (CIC USE 1)

LEVEL 1  
N = 1708.  
MEANS  
-----  
AMTNEO = 3.542 ACCNEO = 3.332 SUPDEC = 3.400 SATBFF = 3.489 ORNEFO = 3.273  
MESLEN = 3.273 DUALVY = 3.156 AMTNVZ = 3.162 SPKCPA = 3.146 PMPCON = 3.256  
MTADRF = 3.425 MININ = 3.245 ECCOMP = 3.285 USFNEO = 3.482 RESPND = 3.456  
CLDPIC = 3.427 UNNEO = 3.061

3-21

LEVEL 2  
N = 879.  
MEANS  
-----  
AMTNEO = 3.466 ACCNEO = 3.163 SUPDEC = 3.526 SATBFF = 3.651 ORNEFO = 3.416  
MESLEN = 3.435 DUALVY = 3.272 AMTNVZ = 3.255 SPKCPA = 3.215 PMPCON = 3.373  
MTADRF = 3.431 MININ = 3.423 ECCOMP = 3.407 USFNEO = 3.641 RESPND = 3.626  
CLDPIC = 3.575 UNNEO = 3.157

# FACTORS 8 (AFW USE 1)

LEVEL 1  
N = 1242.  
MEANS  
-----  
AMTNEO = 3.465 ACCNEO = 3.227 SUPDEC = 3.349 SATBFF = 3.425 ORNEFO = 3.232  
MESLEN = 3.238 DUALVY = 3.150 AMTNVZ = 3.145 SPKCPA = 3.126 PMPCON = 3.238  
MTADRF = 3.378 MININ = 3.143 ECCOMP = 3.241 USFNEO = 3.414 RESPND = 3.396  
CLDPIC = 3.362 UNNEO = 3.039

LEVEL 2  
N = 1345.  
MEANS  
-----  
AMTNEO = 3.452 ACCNEO = 3.410 SUPDEC = 3.529 SATBFF = 3.654 ORNEFO = 3.404  
MESLEN = 3.435 DUALVY = 3.251 AMTNVZ = 3.239 SPKCPA = 3.210 PMPCON = 3.349  
MTADRF = 3.466 MININ = 3.405 ECCOMP = 3.406 USFNEO = 3.645 RESPND = 3.622  
CLDPIC = 3.587 UNNEO = 3.144

ESTIMATION PARAMETERS  
\*\*\*\*\*

RANK OF THE BASIS = RANK OF MODEL FOR SIGNIFICANCE TESTING = 9  
 RANK OF THE MODEL TO BE ESTIMATED IS 9  
 ERROR TERM TO BE USED IS (RESIDUAL)

NUMBER OF ORDERS OF THE BASIS VECTORS OTHER THAN THE FIRST IS 7  
 ESTIMATE CELL MEANS, RESIDUALS AND RESIDUALS IN FORM OF STATISTICS WILL BE PRINTED

SYMBOLIC CONTRAST VECTORS  
 \*\*\*\*\*

PAGE 6

```

( 1) 00.00.00.00.00.00.00.
( 2)
( 3) 01.0.0.0.0.0.0.0.
( 4) 0.01.0.0.0.0.0.0.
( 5) 0.0.01.0.0.0.0.0.
( 6) 0.0.0.01.0.0.0.0.
( 7) 0.0.0.0.01.0.0.0.
( 8) 0.0.0.0.0.01.0.0.
( 9) 0.0.0.0.0.0.01.0.
(10) 0.0.0.0.0.0.0.01.
  
```

LYDATING  
 ENGINES  
 TOTALFLY  
 ANLALFLY  
 GAGE  
 POWERPNT  
 QLC USE  
 NEW USE

ERROR CORRELATION MATRIX

	1	2	3	4	5	6	7	8	9	10
1 AMTNEC	1.000000									
2 APCNEC	0.457075	1.000000								
3 SUEDEC	0.544544	0.462892	1.000000							
4 SATDPE	0.579242	0.465482	0.611422	1.000000						
5 MSDNEC	0.415214	0.462572	0.451421	0.527630	1.000000					
6 MPELEN	0.410615	0.276581	0.23235	0.511327	0.460074	1.000000				
7 QUALVY	0.315621	0.403862	0.356113	0.411159	0.460074	0.473306	1.000000			
8 SPKGRA	0.268456	0.292212	0.324766	0.460074	0.460074	0.473306	0.714445	1.000000		
9 SENGCA	0.321525	0.351211	0.303766	0.368534	0.461581	0.46133	0.647218	0.468801	1.000000	
10 PAFECN	0.479902	0.413568	0.367494	0.465247	0.374615	0.371613	0.465665	0.468819	0.468801	1.000000
11 WINDPF	0.352943	0.364866	0.534120	0.578077	0.442794	0.440319	0.445541	0.387752	0.357197	0.461963
12 MNTN			0.414147	0.423325	0.388073	0.345456	0.397330	0.345552	0.314936	0.370680



13	FZCOMP	0.370362	C.448580	0.405787	C.500757	0.506491	0.454243	0.558905	C.542774	0.553761	0.492648
14	USENFO	0.544210	0.476768	0.551233	C.613778	C.501409	0.514462	C.461406	0.442518	0.440806	0.438500
15	RESPND	0.501213	0.459509	0.558074	0.616545	C.458820	0.491364	C.434485	0.421645	0.399047	0.416207
16	CLRPIC	0.478244	0.447118	0.541493	0.595640	C.496042	0.483366	C.423889	0.407354	0.395722	0.420348
17	UNNFO	0.230833	0.336426	0.259952	0.327793	C.358237	0.375602	C.333147	0.367896	0.366817	0.319490

11	MINPRE	11	12	13	14	15	16	17
12	MININ	12	MININ	EZCOMP	USNFO	RESPND	CLRPIC	UNNFO
13	FZCOMP	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
14	USENFO	0.455527	0.455527	0.563571	0.637351	C.675361	1.000000	1.000000
15	RESPND	0.592396	0.467760	0.555736	0.637351	C.675361	1.000000	1.000000
16	CLRPIC	0.577882	C.467114	C.555736	0.637351	C.675361	1.000000	1.000000
17	UNNFO	0.318077	0.311820	0.429972	0.395760	C.405066	0.380532	1.000000

VARIABLE	VARIABLE	STANDARD DEVIATION
(ERROR MEAN SQUARES)		

1	AMTNEO	0.552322	0.7430
2	ACGNFO	C.636543	0.7981
3	SUPEFC	0.567607	0.7534
4	SATBRE	C.654554	0.8337
5	PRDNEN	C.767655	C.8762
6	WESLEN	C.843659	0.9218
7	QUALVY	C.634875	0.7868
8	AMTNVZ	C.605535	0.7801
9	SPKGRA	0.590944	C.7687
10	PMPCGN	C.667291	0.8165
11	MINPRE	0.690222	C.8308
12	MININ	0.860568	0.9277
13	FZCOMP	C.656553	C.8103
14	USENFO	0.685273	C.8278
15	RESPND	0.704654	0.8394
16	CLRPIC	C.624165	C.7900
17	UNNFO	0.921688	C.9600

D.F. = 2578.

ERROR TERM FOR ANALYSIS OF VARIANCE (RESIDUAL)

LEAST SQUARE ESTIMATES OF EFFECTS -- EFFECTS X VARIABLES

1	2	3	4	5	6	7	8	9	10
AMTNEO	ACGNFO	SUPEFC	SATBRE	CEDEFC	WESLEN	QUALVY	AMTNVZ	SPKGRA	PMPCGN
1	3.497766	2.743187	1.000000	3.508547	3.303590	3.180762	3.196250	3.173129	3.275074

STANDARD ERRORS OF LEAST-SQUARES ESTIMATES--EFFECTS BY VARS

1	2	3	4	5	6	7
AMTNYZ	ACCNEO	SUPDEC	SATBRF	ORDNFC	MESLEN	QUALVY
1 3.4712500-C2	3.7287090-02	3.5199150-02	3.8549210-02	4.0935740-02	4.3026610-02	3.7226520-02
2 1.9952100-02	2.1431900-02	2.0231790-02	2.2387260-02	2.3525080-02	2.4753280-02	2.1397090-02
3 2.0700780-02	2.2736710-02	2.0990570-02	2.7277320-02	2.4411580-02	2.5682730-02	2.2199990-02
4 1.9124170-02	2.6542560-02	1.9392250-02	2.1456270-02	2.2592710-02	2.3726120-02	2.0509190-02
5 1.6842520-02	1.8091690-02	1.7378620-02	1.8858150-02	1.9862010-02	2.0858430-02	1.8062300-02
6 1.5269160-02	1.6401640-02	1.5483210-02	1.7132760-02	1.8036590-02	1.8943460-02	1.6375000-02
7 3.4544180-02	3.1106250-02	3.5028430-02	3.8760300-02	4.0737230-02	4.2856740-02	3.7045970-02
8 1.6460030-02	1.7682830-02	1.6690170-02	1.8469580-02	1.9410550-02	2.0420900-02	1.7652110-02
9 1.5607690-02	1.6755280-02	1.5826480-02	1.7512610-02	1.8435910-02	1.9363450-02	1.6738040-02

8	9	10	11	12	13	14
AMTNYZ	SPKGRA	PMPCON	MINPRE	MININ	EZCCMP	USPNEO
1 3.6446080-02	3.5515450-02	3.8165040-02	3.8815270-02	4.3341180-02	3.7857890-02	3.8675850-02
2 2.0948500-02	2.0643510-02	2.1936430-02	2.2310270-02	2.4911670-02	2.1759990-02	2.2230130-02
3 2.1734570-02	2.1418130-02	2.2155680-02	2.3147440-02	2.5846460-02	2.2576510-02	2.3084300-02
4 2.0079220-02	1.5786880-02	2.1026250-02	2.1384480-02	2.3877540-02	2.0597030-02	2.1307670-02
5 1.7683630-02	1.7421170-02	1.8517670-02	1.8833160-02	2.1329130-02	1.8368640-02	1.8765520-02
6 1.6031700-02	1.5798290-02	1.6787830-02	1.7073850-02	1.9044680-02	1.6652720-02	1.7012520-02
7 3.6265310-02	3.5741250-02	3.7676590-02	3.8627010-02	4.3130570-02	3.7674770-02	3.8488270-02
8 1.7282340-02	1.7736420-02	1.8257140-02	1.8455470-02	2.0531560-02	1.7951490-02	1.8339350-02
9 1.6387130-02	1.6148550-02	1.7160020-02	1.7452390-02	1.9487350-02	1.7021520-02	1.7389700-02

15	16	17
RESPND	CI ROTC	UNNFC
1 3.9218970-02	3.6911180-02	4.4853500-02
2 2.2542310-02	2.1215640-02	2.5781160-02
3 2.3388180-02	2.2311540-02	2.6746570-02
4 2.1806890-02	2.0335460-02	2.4711340-02
5 1.5029040-02	1.7906300-02	2.1763110-02
6 1.7251420-02	1.4274290-02	1.9730050-02
7 1.9028750-02	3.4731160-02	4.4636350-02
8 1.8596890-02	1.1502580-02	2.1268870-02
9 1.7633900-02	1.6546760-02	2.0161720-02

LEAST-SQUARES ESTIMATES AS T-STATISTICS - EFFECTS X VARS

1	2	3	4	5	6	7	8	9	10
AMTNYZ	ACCNEO	SUPDEC	SATBRF	ORDNFC	MESLEN	QUALVY	AMTNYZ	SPKGRA	PMPCON
1 100.7438	57.5714	56.7865	90.0000	90.7263	75.6350	85.4435	97.4248	98.3500	85.8134
2 -4.7275	-1.9518	-3.1805	-4.1727	-2.1642	-2.8535	-3.7463	-2.8125	-1.8889	-2.9103
3 -1.3638	0.5283	-0.6204	-2.1781	-1.3646	-2.0564	-3.2135	-2.0135	-0.8126	-0.3407

4 2.7427 (.6783 2.6503 2.3547 0.6257 0.9934 -1.2086 -0.1538 -0.0091 1.0336  
 5 0.3420 0.5086 0.0871 -0.1424 -0.4525 1.0190 -0.4247 0.8353 1.4272  
 6 0.3639 0.2519 1.3640 0.7794 -0.2176 -0.6823 -0.3900 -1.2401 0.1527  
 7 3.1031 1.5122 1.4592 0.4458 0.5328 1.8124 1.0145 0.2463 1.0386  
 8 -1.4526 0.6613 -2.2464 -2.5289 -2.3862 -1.0704 -1.5562 -1.0471 -2.2085  
 9 -6.2215 -5.3462 -4.7194 -5.2343 -3.6879 -4.9374 -1.0930 -1.5342 -2.3867

1 17.4031 14.7162 87.1416 90.0956 87.2637 91.3463 67.6865  
 2 -3.3429 -2.1056 -2.3035 -2.8295 -3.3437 -2.7384 -1.3444  
 3 -1.6894 -1.2127 -0.0268 -0.6615 -1.2666 -1.9288 0.1285  
 4 0.8598 0.5771 0.7098 2.4171 1.6324 1.6345 0.2663  
 5 -0.3581 0.0516 1.3136 -0.1112 0.5542 -0.8222 -0.3062  
 6 0.7686 -0.1562 0.5848 0.2623 1.4338 1.5583 1.5112  
 7 2.2605 1.5675 1.3705 1.8668 2.9581 3.0312 1.5780  
 8 -3.4505 -2.6667 -1.8475 -2.4591 -2.4548 -2.3992 -1.3681  
 9 -4.5567 -4.4403 -4.1897 -5.7509 -5.2371 -5.5620 -1.8683

DEGREES OF FREEDOM = 2578.

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMNFC	ACCNFC	SUPDFC	SATBFF	ORDNFC	MESLEN	QUALVY	AMTYZ	SPKGRA	PMPCON
1	3.424503	3.255646	3.345352	3.324920	3.159535	3.082613	3.012108	3.012624	3.068747	3.246301
2	3.618719	3.439576	3.465235	3.516072	3.254254	3.273623	3.048695	3.076026	3.138272	3.328213
3	3.473638	3.251479	3.428432	3.422404	3.251171	3.163227	3.048695	3.066424	3.102412	3.328238
4	3.667846	3.426836	3.573724	3.607466	3.386330	3.363342	3.036448	3.128616	3.173937	3.408149
5	3.210115	3.157624	3.247124	3.255260	3.115126	2.972667	2.936944	3.002057	3.048096	3.167410
6	3.404320	3.227752	3.356506	3.440442	3.250885	3.119281	2.973525	3.065489	3.120621	3.249321
7	3.259250	3.145257	3.322113	3.348774	3.207762	3.113981	2.974735	3.058887	3.084762	3.247347
8	3.453456	3.324545	3.471446	3.538856	3.343521	3.204956	3.011325	3.115279	3.156286	3.329258
9	3.413350	3.430711	3.450278	3.466650	3.130466	3.090356	3.034453	3.022135	3.105928	3.174324
10	3.607595	3.430711	3.450278	3.466650	3.266225	3.281871	3.071043	3.085320	3.177453	3.259361
11	3.462525	3.245216	3.375885	3.374591	3.223102	3.177570	3.072243	3.076929	3.141594	3.259361
12	3.656731	3.428544	3.525268	3.560064	3.358461	3.368545	3.108833	3.143320	3.213119	3.35872
13	3.169001	3.135162	3.198667	3.207037	3.087057	2.935510	2.959289	3.014602	3.088278	3.095133
14	3.393207	3.316489	3.348050	3.350320	3.222316	3.126525	2.955875	3.077953	3.158802	3.177044
15	3.248137	3.136554	3.213657	3.201351	3.175693	3.022224	2.997380	3.068392	3.123943	3.175070
16	3.442343	3.316322	3.423039	3.486434	3.315452	3.223224	3.033670	3.068392	3.123943	3.175070
17	3.412582	3.241244	3.346376	3.334409	3.167438	3.101524	2.975295	3.027654	3.037633	3.256981
18	3.617188	3.425571	3.445159	3.515452	3.255247	3.292535	3.011885	3.091045	3.109158	3.273382
19	3.462117	3.230076	3.421366	3.427823	3.255247	3.188233	3.013085	3.081444	3.077299	3.273382
20	3.198554	3.125022	3.570759	3.263795	3.119075	3.079254	2.900135	3.017117	3.019983	3.255253
21	3.362800	3.365349	3.339531	3.445862	3.254438	3.137193	2.936725	3.08508	3.091507	3.196465
22	3.247779	3.176854	3.335134	3.344153	3.221715	3.032882	2.937525	3.07907	3.055648	3.196465
23	3.306182	3.306182	3.446520	3.535276	3.347474	3.223907	2.974515	3.134253	3.127173	3.276402
24	3.441035	3.222581	3.255920	3.286587	2.134419	3.105767	2.997643	3.040159	3.076815	3.121168
25	3.401865									

26	3.596075	3.412308	3.447302	3.472065	3.270178	3.300782	2.034233	3.103550	3.148340	3.203080
27	3.451004	3.230814	3.372909	3.380401	3.227055	3.196482	2.033422	3.059449	3.112481	3.201105
28	3.648710	3.410141	3.522792	3.564483	3.362814	3.387497	3.072023	3.157340	3.188005	3.283016
29	3.187481	3.120759	3.195691	3.212357	3.051010	2.952476	3.025621	3.059164	3.042277	3.042277
30	3.281687	3.200687	3.340674	3.358439	3.226769	3.145436	2.959069	3.052013	3.130689	3.124188
31	3.274616	3.118592	3.270671	3.306710	3.183646	3.041135	2.960270	3.083412	3.094830	3.122213
32	3.430822	3.297910	3.420064	3.491853	3.319405	3.232150	2.998860	3.148903	3.166355	3.204129
33	3.319597	3.219453	3.238804	3.227536	3.121293	3.035476	3.061683	3.20417	3.067107	3.202834
34	3.518803	3.358780	3.388186	3.417019	3.257522	3.226450	3.098273	3.083809	3.138632	3.284745
35	3.368733	3.211285	3.313793	3.321929	3.219929	3.122190	3.099472	3.137599	3.102773	3.282771
36	3.562936	3.356613	3.463176	3.504422	3.345688	3.313205	3.136063	3.137599	3.174298	3.364682
37	3.104209	3.107231	3.136575	3.154206	3.071864	2.880129	2.984519	3.065880	3.049457	3.123943
38	3.255415	3.286559	3.335389	3.335389	3.213643	3.071144	3.023109	3.072272	3.120981	3.203854
39	3.154345	3.105064	3.211565	3.247120	3.170920	2.966844	3.024310	3.063670	3.085122	3.203879
40	3.348550	3.284391	3.360548	3.433802	3.306779	3.157858	2.860300	3.127062	3.156557	3.285791
41	3.308484	3.211150	3.196347	3.185513	3.053224	3.043719	2.840277	3.09285	3.109285	3.130557
42	3.502690	3.350518	3.335730	3.365566	3.228983	3.234734	2.804027	3.096314	3.177614	3.212468
43	3.357826	3.205023	3.265337	3.273327	3.185960	3.130433	2.821817	3.066712	3.141955	3.210494
44	3.581826	3.385520	3.414715	3.459010	3.321619	3.321648	3.158407	3.150104	3.213479	3.292405
45	3.304906	3.098668	3.081119	3.045815	2.888372	3.008864	3.022385	3.088638	3.051666	3.133577
46	3.288102	3.278296	3.275501	3.291566	3.185974	3.079387	2.965534	3.085777	3.160163	3.131602
47	3.143732	3.056801	3.143108	3.142451	2.975387	3.246654	3.076175	3.124304	3.124304	3.213514
48	3.337437	3.276129	3.312491	3.386380	3.278120	3.166102	2.883244	3.135567	3.195829	3.213514
49	3.308077	3.201650	3.245828	3.313355	3.125246	3.054387	2.924872	3.035437	3.037994	3.145978
50	3.502283	3.340378	3.345211	3.418438	3.261105	3.245402	2.961463	3.098828	3.109519	3.231889

ESTIMATED CELL MEANS. ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNEO	ACCNEC	SUPDFC	SATDRF	CRONFO	MESLEN	QUALVY	AMTNVZ	SPKGRA	PPMCON
51	3.257212	3.158883	3.110818	3.326769	3.217881	3.141101	2.062663	3.085227	3.073660	3.229915
52	3.551418	3.378210	3.460200	3.511852	3.353040	3.332116	3.099252	3.152618	3.145184	3.311826
53	3.093689	3.086528	3.133600	3.155125	3.081636	2.899041	2.945705	3.024900	3.020343	3.071086
54	3.278895	3.268156	3.282982	3.344808	3.217355	3.090056	2.986255	3.088251	3.091868	3.152998
55	3.142824	3.086661	3.205896	3.251139	3.174472	2.985755	2.987503	3.078650	3.056039	3.151023
56	3.337030	3.265589	3.357572	3.438222	3.310231	3.176710	3.024090	3.142081	3.127534	3.232935
57	3.256564	3.152788	3.187472	3.185353	3.097177	3.062630	2.847217	3.047942	3.077176	3.077701
58	3.491173	3.372115	3.336154	3.371016	3.232356	3.232645	2.838007	3.111333	3.148701	3.159612
59	3.466099	3.150620	3.262361	3.275347	3.189812	3.149344	2.085007	3.101732	3.112841	3.157638
60	3.540305	3.365448	3.411144	3.444429	3.325571	3.340359	2.815123	3.165123	3.184366	3.235549
61	3.082576	3.080666	3.081143	3.112303	3.057767	2.907284	2.972094	3.037405	3.059525	2.958810
62	3.276782	3.255853	3.234626	3.257366	3.185526	3.082998	3.008844	3.071155	3.110501	3.080721
63	3.131711	3.078358	3.160133	3.205717	3.146433	3.083988	3.046434	3.051191	2.905191	3.078746
64	3.325917	3.257726	3.305915	3.350769	3.282162	3.185013	3.046434	3.154586	3.167115	3.160658
65	3.480968	3.236150	3.375396	3.435462	3.251773	3.188405	3.191377	3.183549	3.173081	3.343719
66	3.675174	3.415478	3.450778	3.528786	3.360532	3.379423	3.192577	3.159488	3.173222	3.341744
67	3.530103	3.233963	3.450385	3.528786	3.317868	3.275119	3.192577	3.159488	3.173222	3.341744
68	3.724206	3.413110	3.556768	3.717959	3.453567	3.466134	2.929167	3.217239	3.208747	3.423656
69	3.266583	3.132928	3.273167	3.36512	3.161764	3.33059	2.079623	3.085620	3.083906	3.182916
70	3.460786	3.302256	3.422550	3.505615	3.317523	3.224074	2.979623	3.153012	3.115431	3.284827
71	3.157115	3.117161	3.145157	3.145246	3.274399	3.119773	3.116214	3.143411	3.119571	3.262853
72	3.590921	3.301084	3.457503	3.459266	3.410158	3.310763	3.154004	3.206802	3.191066	3.344764
73	3.465855	3.272787	3.376939	3.462300	3.2157104	3.196643	2.917731	3.112642	3.140738	3.189531
74	3.644061	3.467215	3.476322	3.577123	3.332843	3.387603	2.913721	3.176354	3.212262	3.271442
75	3.518990	3.295720	3.401929	3.485444	3.285739	3.283363	2.916921	3.164652	3.176404	3.269467
76	3.713196	3.405048	3.531311	3.670537	3.425459	3.474377	2.951511	3.225844	3.247529	3.351379
77	3.265467	3.115664	2.224711	3.318410	3.155655	3.341302	2.913668	3.103125	3.123088	3.110639



	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCFC	SUPFC	SATER	CRDNC	MESLN	QUALVY	AMTNYZ	SPKGRA	PMPCON
78	3.445673	3.254553	3.374093	3.503493	3.289454	3.232317	3.133558	3.165517	3.194612	3.192551
79	3.304602	3.111458	3.295702	3.411874	3.246330	3.128010	3.139758	3.155915	3.158753	3.190570
80	3.458808	3.292826	3.445083	3.565607	3.362069	3.176348	3.215307	3.215307	3.230278	3.272487
81	3.465447	3.211718	3.322420	3.446881	3.229129	3.207317	3.117977	3.111177	3.072443	3.208951
82	3.663653	3.357075	3.521803	3.625544	3.364864	3.308332	3.156667	3.176568	3.143968	3.290863
83	3.718583	3.215580	3.447410	3.538295	3.321711	3.294031	3.155767	3.166967	3.108109	3.288888
84	3.712789	3.364518	3.567522	3.723378	3.457520	3.485046	3.192357	3.232358	3.179234	3.370799
85	3.295059	3.101526	3.270192	3.371251	3.165716	3.405150	3.042814	3.104640	3.054793	3.130060
86	3.449285	3.284853	3.419574	3.563334	3.278352	3.138685	3.079404	3.166031	3.126317	3.211971
87	3.304195	3.102258	3.345181	3.464655	3.278352	3.138685	3.079404	3.166031	3.126317	3.211971
88	3.438400	3.282686	3.494564	3.645748	3.414111	3.355703	3.117154	3.127642	3.116153	3.291908
89	3.458434	3.205465	3.323963	3.397459	3.201056	3.215560	3.140321	3.127642	3.116153	3.291908
90	3.652543	3.366112	3.472346	3.582542	3.336815	3.406575	3.178111	3.181472	3.183150	3.218586
91	3.507470	3.207218	3.358953	3.450873	3.236952	3.302274	3.178111	3.181472	3.183150	3.218586
92	3.701675	3.366445	3.546336	3.675556	3.429451	3.493289	3.214702	3.244843	3.218815	3.295522
93	3.243966	3.057263	3.221735	3.321895	3.157647	3.060214	3.101748	3.117145	3.093974	3.057783
94	3.438152	3.276551	3.371118	3.508912	3.261426	3.251228	3.101748	3.117145	3.117145	3.139644
95	3.293081	3.055056	3.296725	3.417263	3.250243	3.146928	3.110294	3.173935	3.129640	3.137720
96	3.487287	3.274423	3.446107	3.602326	3.386042	3.337563	3.139538	3.234326	3.201165	3.219631
97	3.376063	3.195557	3.264848	3.388438	3.187930	3.161268	3.102991	3.173935	3.101917	3.218340
98	3.570268	3.376264	3.416230	3.623431	3.338699	3.332283	3.200991	3.173935	3.173935	3.300252
99	3.425198	3.193786	3.345837	3.418822	3.289566	3.279627	3.242152	3.161731	3.137583	3.286277
100	3.615404	3.337117	3.455220	3.616905	3.416325	3.418997	3.278742	3.222152	3.209108	3.380188

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES



130	3.807357	3.505451	3.627428	3.705005	3.356139	3.414746	3.209303	3.153862	3.216258	3.455855
131	3.662786	3.321996	3.553034	3.605236	3.253016	3.310445	3.210204	3.184261	3.180399	3.453920
132	3.856497	3.502276	3.702417	3.753118	3.488775	3.501460	3.246794	3.247652	3.251924	3.253632
133	3.398763	3.213542	3.315816	3.442192	3.216571	3.068385	3.291250	3.119934	3.127083	3.295092
134	3.502969	3.393269	3.352199	3.627275	3.352730	3.259359	3.133840	3.183325	3.198608	3.377003
135	3.447898	3.211174	3.450806	3.535606	3.309607	3.155099	3.135040	3.173724	3.162748	3.375029
136	3.642134	3.391132	3.600189	3.726688	3.445366	3.346114	3.2171630	3.237115	3.234273	3.455940
137	3.602038	3.317501	3.425588	3.468400	3.232311	3.231974	3.194758	3.145576	3.183915	3.301707
138	3.784278	3.451278	3.578571	3.651482	3.368070	3.422989	3.231348	3.203677	3.255440	3.383618
139	3.651173	3.315734	3.506578	3.561813	3.224947	3.318688	3.232548	3.154766	3.219581	3.381643
140	3.845379	3.495061	3.653961	3.746856	3.460706	3.509703	3.269138	3.260157	3.291106	3.463555
141	3.387650	3.203679	3.327160	3.374856	3.184902	3.076628	3.115954	3.132439	3.166265	3.222815
142	3.478185	3.295115	3.476743	3.575552	3.324661	3.267643	3.151814	3.182829	3.231789	3.304727
143	3.474785	3.295115	3.476743	3.575552	3.324661	3.267643	3.151814	3.182829	3.231789	3.304727
144	3.630091	3.382839	3.551732	3.673266	3.417257	3.358357	3.157384	3.249620	3.273455	3.321127
145	3.601630	3.327161	3.475069	3.521241	3.264332	3.242642	3.135603	3.145450	3.115620	3.403039
146	3.795836	3.487088	3.624452	3.706324	3.400051	3.433657	3.172193	3.208882	3.151286	3.401064
147	3.650766	3.305554	3.550059	3.614655	3.356568	3.325357	3.173394	3.199280	3.152881	3.482975
148	3.844972	3.484521	3.699442	3.795738	3.452727	3.520371	3.209984	3.262672	3.222811	3.482975
149	3.387242	3.195539	3.372841	3.447611	3.223323	3.087296	3.260440	3.134953	3.097570	3.242236
150	3.581448	3.374867	3.522224	3.622654	3.356682	3.278311	3.057030	3.153345	3.169498	3.324147

ESTIMATED CELL MEANS. ALL GROUPS - CELLS X VARIABLES

151	3.434378	3.193272	3.447830	3.541025	3.313559	3.174010	3.098220	3.188743	3.133635	3.322173
152	3.633583	3.372699	3.557213	3.726108	3.445318	3.365325	3.134820	3.252135	3.205160	3.404084
153	3.590517	3.295458	3.476613	3.473819	3.233223	3.250885	3.157948	3.157955	3.154802	3.248850
154	3.784723	3.478826	3.575555	3.658902	3.372022	3.441900	3.194538	3.221386	3.226327	3.300762
155	3.639653	3.257131	3.501602	3.612233	3.328899	3.337600	3.195738	3.211785	3.190468	3.228787
156	3.833859	3.476658	3.655085	3.752315	3.464658	3.528615	3.232328	3.275177	3.261592	3.410699
157	3.376129	3.181276	3.324384	3.400189	3.192754	3.095539	3.082784	3.147458	3.137151	3.165959
158	3.570335	3.366604	3.473767	3.585272	3.328613	3.286554	3.119374	3.210849	3.208676	3.251870
159	3.425265	3.185109	3.399374	3.493603	3.295490	3.182253	3.120574	3.201248	3.172817	3.249895
160	3.619470	3.364437	3.548757	3.678655	3.421249	3.373268	3.157165	3.264540	3.244342	3.331807
161	3.508246	3.285870	3.367487	3.476577	3.222137	3.176593	3.221588	3.138254	3.145094	3.330516
162	3.702451	3.465259	3.516879	3.558851	3.358396	3.367608	3.258578	3.201645	3.216619	3.412428
163	3.557381	3.265259	3.318773	3.508182	3.318773	3.263308	3.259778	3.192044	3.180760	3.410453
164	3.751587	3.442486	3.547486	3.693265	3.451532	3.354323	3.263638	3.256436	3.252285	3.492364
165	3.254857	3.463130	3.551869	3.693265	3.451532	3.354323	3.263638	3.256436	3.252285	3.492364
166	3.448363	3.373744	3.465641	3.526221	3.315487	3.212662	3.168874	3.127117	3.127444	3.251825
167	3.342993	3.353076	3.434058	3.434552	3.272364	3.107961	3.184615	3.151108	3.163109	3.333536
168	3.457133	3.277707	3.315040	3.415635	3.408123	3.244898	3.221505	3.181507	3.163109	3.333536
169	3.651338	3.457035	3.466423	3.552428	3.330327	3.243352	3.244332	3.150759	3.184276	3.258239
170	3.546268	3.275540	3.394330	3.460760	3.287704	3.271551	3.280922	3.214150	3.255801	3.340151
171	3.740474	3.454866	3.543412	3.645842	3.423463	3.362566	3.181712	3.267940	3.291466	3.358176
172	3.282744	3.165486	3.216812	3.253716	3.151659	3.029490	3.169168	3.140222	3.166625	3.200087
173	3.476950	3.344813	3.366194	3.478758	3.287418	3.202505	3.169168	3.203613	3.238150	3.261259
174	3.331880	3.163318	3.291801	3.367130	3.244295	3.116705	3.206955	3.194012	3.23291	3.259285
175	3.520886	3.267446	3.441184	3.572212	3.390559	3.307220	3.243549	3.257432	3.273816	3.341156
176	3.696725	3.426567	3.364521	3.420187	3.277050	3.195505	3.185178	3.153274	3.115931	3.277680
177	3.690531	3.444855	3.513304	3.605270	3.362849	3.336520	3.221768	3.216665	3.187506	3.359571
178	3.545860	3.265500	3.313601	3.319226	3.282219	3.282219	3.222768	3.270664	3.151646	3.357597
179	3.740066	3.444728	3.568893	3.694884	3.455685	3.473234	3.265558	3.270455	3.223171	3.439508
180	3.282737	3.155346	3.262293	3.346557	3.183681	3.040159	3.110014	3.142137	3.158330	3.158769

182	3.476543	3.334673	3.411675	3.531640	2.315440	3.231174	2.146604	3.206128	3.169855	3.280680
183	3.311472	3.151178	3.337282	3.435571	3.276317	3.128473	3.147805	3.154527	3.133996	3.278705
184	3.529678	3.325506	3.466665	3.625354	3.412376	3.317888	3.184395	3.259918	3.205521	3.360617
185	3.485612	3.255305	3.316064	3.372765	3.195021	3.203748	2.207522	3.165778	3.155163	3.205383
186	3.675818	3.431632	3.465447	3.557848	3.334780	3.394673	2.244112	3.225170	3.226687	3.287295
187	3.534747	3.257137	3.391354	3.466176	3.251657	3.290462	2.245312	3.219568	3.190828	3.285320
188	3.728953	3.434665	3.540437	3.651262	3.427416	3.481477	3.281902	3.282960	3.262353	3.367231
189	3.271224	3.147063	3.213836	3.255135	3.155612	3.348402	3.132359	3.155241	3.137512	3.126492
190	3.465643	3.326411	3.363219	3.464218	3.251371	3.238417	3.168945	3.218633	3.209037	3.208403
191	3.320359	3.144916	3.288826	3.392549	3.246248	3.135116	3.170149	3.205031	3.171177	3.206429
192	3.514565	3.324243	3.436208	3.571632	3.384007	3.326131	3.206735	3.272423	3.244702	3.288340
193	3.669616	3.302667	3.504089	3.624294	3.327017	3.329523	3.315092	3.271954	3.179544	3.389640
194	3.843822	3.481555	3.653471	3.811377	3.462776	3.520538	3.351682	3.281366	3.251068	3.471401
195	3.718751	3.330500	3.575078	3.715768	3.415653	3.414237	3.353882	3.357184	3.215209	3.469426
196	3.912957	3.475828	3.728461	3.904791	3.558412	3.607252	3.386472	3.335176	3.286734	3.551338
197	3.455228	3.150446	3.461660	3.552664	3.285608	3.174177	2.239928	3.207457	3.161893	3.310598
198	3.648444	3.276773	3.551243	3.737747	3.419367	3.363192	2.276518	3.270848	3.233418	3.392510
199	3.504363	3.182778	3.476850	3.66078	3.376244	3.260491	2.277719	3.261247	3.197558	3.390535
200	3.658569	3.367676	3.626733	3.831161	3.512003	3.451906	3.314309	3.324639	3.266083	3.472446

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNEO	ACCNEC	SUPEFC	SATPRF	CRCNFO	MESLEN	QUALVY	AMTNVZ	SPKCRG	PPPCON
201	3.658503	3.294405	3.455632	3.576672	2.298548	3.337766	2.337436	3.230459	3.218725	3.317213
202	3.827205	3.473132	3.605015	3.763555	3.436707	3.528781	2.374026	3.253850	3.290250	3.399124
203	3.707638	3.252237	3.502622	3.672286	3.515454	3.424480	2.378226	3.284289	3.254591	3.397150
204	3.901848	3.471565	3.640034	3.853569	3.521343	3.613455	2.411816	3.347680	3.259516	3.479061
205	3.444415	3.182163	3.353404	3.505242	3.255539	3.184220	2.262273	3.215662	2.231074	3.238321
206	3.638321	3.361510	3.530286	3.650225	3.391258	3.373435	3.258863	3.283353	3.272599	3.320233
207	3.443250	3.180016	3.425893	3.558656	3.348175	3.269134	2.300063	3.273752	2.326740	3.318258
208	3.687456	3.357243	3.577776	3.787739	3.483524	3.463149	3.336652	3.337143	3.308265	3.400170
209	3.658096	3.284265	3.501113	3.631174	3.330570	3.348435	2.278282	3.233014	3.150430	3.336634
210	3.852301	3.463552	3.650496	3.816756	3.466729	3.539450	2.314872	3.254405	3.221955	3.418545
211	3.707231	3.282057	3.576103	3.725128	3.423606	3.435149	2.316372	3.286804	3.186096	3.416570
212	3.901437	3.461495	3.725485	3.910210	3.555365	3.626164	3.352662	3.350195	3.257621	3.498482
213	3.443707	3.172043	3.368855	3.558084	3.287561	3.193088	2.203118	3.222477	3.132779	3.257742
214	3.637513	3.351371	3.548267	3.747166	3.423320	3.384103	2.239708	3.285868	3.204304	3.339654
215	3.492843	3.165876	3.473874	3.651498	3.380157	3.473818	2.240905	3.276267	3.168445	3.337679
216	3.697042	3.245203	3.623257	3.836530	3.515956	3.473803	2.277499	3.339658	3.235970	3.415590
217	3.646982	3.276002	3.452656	3.645291	3.302301	3.356678	3.300626	3.245518	3.189612	3.264357
218	3.841188	3.455330	3.602039	3.769374	3.438660	3.547693	3.337216	3.306810	3.261137	3.346268
219	3.561118	3.273835	3.527646	3.677705	3.335937	3.443392	3.338416	3.295208	3.225277	3.344293
220	3.890326	3.452162	3.677038	3.842788	3.531256	3.634407	3.375006	3.362700	3.296802	3.426205
221	3.432554	3.163760	3.350428	3.510661	3.259442	3.201331	2.225463	3.234581	3.171561	3.189465
222	3.626883	3.342104	3.450811	3.655744	3.355251	3.392346	2.262053	3.298373	3.243486	3.267377
223	3.481730	3.161614	3.425418	3.604075	3.321218	3.288046	2.263253	3.287711	3.207627	3.265402
224	3.675946	3.240541	3.514300	3.769198	3.437387	3.479061	3.299843	3.252163	3.279152	3.347313
225	3.564711	3.262474	3.393540	3.525240	3.285775	3.282386	3.366666	3.225777	3.179904	3.346023
226	3.748517	3.441801	3.542923	3.713323	3.425534	3.473401	3.401256	3.279567	3.251429	3.427934
227	3.613846	3.260307	3.446530	3.618654	3.382411	3.369110	3.432456	3.279567	3.215570	3.429595
228	3.808052	3.430636	3.617913	3.807737	3.518170	3.560115	3.439046	3.342959	3.287095	3.507871
229	3.350323	3.150252	3.291312	3.451610	3.246366	3.260393	2.283503	3.215240	3.162253	3.267131
230	3.544529	3.225581	3.440655	3.636653	3.382125	3.318054	3.326093	3.276632	3.233778	3.349042
231	3.399458	3.148065	3.366302	3.545024	3.339002	3.213754	3.327293	3.245030	3.197919	3.347068
232	3.593664	3.221412	3.515684	3.730107	3.474761	3.404769	3.336883	3.333422	3.269444	3.428978
233	3.553598	3.254211	3.345084	3.471818	3.241706	3.290699	3.387010	3.238282	3.219086	3.273746

234	3.747804	3.433519	3.494467	3.662501	3.397465	3.481644	3.423600	3.201673	3.256111	3.355657
235	3.602733	3.252044	3.423074	3.571232	3.354342	3.377343	3.424801	3.292072	3.254751	3.353482
236	3.756939	3.431372	3.569456	3.756315	3.490101	3.568358	3.461351	3.355665	3.326276	3.435594
237	3.339210	3.141590	3.242856	3.404188	3.218297	3.135283	3.311847	3.227745	3.231435	3.194854
238	3.333415	3.321317	3.392238	3.585271	3.354056	3.326258	3.368337	3.281136	3.272860	3.278766
239	3.388345	3.139622	3.317845	3.697602	3.310933	3.321597	3.349837	3.281135	3.237101	3.274791
240	3.582551	3.315150	3.471728	3.682685	3.246652	3.413312	3.386827	3.344927	3.308626	3.356702
241	3.553190	3.246271	3.390565	3.715660	3.293726	3.301597	3.327856	3.240797	3.308626	3.293166
242	3.747196	3.423399	3.539848	3.715143	3.429487	3.492312	3.364446	3.304188	3.222316	3.375078
243	3.602326	3.241504	3.463554	3.624074	3.386363	3.388312	3.365046	3.294587	3.186456	3.373103
244	3.796531	3.421232	3.614937	3.805156	3.522122	3.379026	3.402236	3.357578	3.257981	3.455014
245	3.798802	3.131850	3.288336	3.457030	3.250318	3.145951	3.252693	3.230260	3.133140	3.214275
246	3.533308	3.111177	3.437715	3.642113	3.366277	3.336966	3.289283	3.293651	3.204665	3.296186
247	3.387937	3.125687	3.363326	3.550444	3.342954	3.232665	3.290483	3.284050	3.168806	3.294212
248	3.582143	3.305010	3.512709	3.735526	3.478713	3.323680	3.327073	3.347441	3.240331	3.376123
249	3.542077	3.233809	3.342108	3.483227	3.245659	3.309540	3.250200	3.253302	3.189973	3.220889
250	3.736283	3.415136	3.491491	3.668320	3.401418	3.500555	3.386790	3.216653	3.261497	3.302801

ESTIMATED CELL MEANS - ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNO	ACCNC	SUDEC	SATRF	ORDNO	MESLN	QUALV	AMTNY	SPKGR	PPPCN
251	3.591213	3.233641	3.417058	3.576651	3.352554	3.396255	3.387991	3.307092	3.225638	3.300826
252	3.785418	3.412569	3.566481	3.761734	3.494053	3.587270	3.424581	3.370483	3.297163	3.382738
253	3.327689	3.121587	3.235880	3.405607	3.222249	3.154194	3.275027	3.242765	3.172322	3.141998
254	3.521895	3.302514	3.395263	3.554690	3.356308	3.345209	3.311627	3.306156	3.243847	3.223909
255	3.768224	3.121420	3.314870	3.533021	3.331485	3.240908	3.312827	3.295555	3.207987	3.221935
256	3.571030	3.300747	3.464252	3.688104	3.450644	3.431923	3.349417	3.259946	3.279512	3.303846

ESTIMATED CELL MEANS - ALL GROUPS - CELLS X VARIABLES

	11	12	13	14	15	16	17
	MINDF	PININ	EZCNP	USFNC	RESPD	CLRPTC	UNNFO
1	3.276587	3.108362	3.244083	3.282277	3.357765	3.286585	3.039390
2	3.452559	3.281421	3.386716	3.582391	3.542471	3.471203	3.112330
3	3.408603	3.217671	3.310413	3.472572	3.456512	3.370569	3.097629
4	3.579615	3.391030	3.453045	3.672566	3.641215	3.555187	3.170565
5	3.027697	2.536639	3.140815	3.233679	3.134673	3.059490	2.898520
6	3.200709	3.111696	3.283452	3.436653	3.315376	3.244108	2.971460
7	3.154712	3.046248	3.207149	3.328875	3.233416	3.143475	2.956759
8	3.327724	3.221309	3.345781	3.523889	3.418113	3.328093	3.029658
9	3.253341	3.114216	3.224605	3.273452	3.308259	3.250020	2.979757
10	3.426353	3.267375	3.367237	3.573467	3.493022	3.435538	3.052654
11	3.380256	3.223925	3.290534	3.463648	3.407342	3.334305	3.037096
12	3.553368	3.396584	3.433567	3.663662	3.551745	3.519523	3.110935
13	3.001450	2.544554	3.121341	3.229755	3.085204	3.023826	2.838887
14	3.174462	3.117653	3.243973	3.425745	3.265326	3.208444	2.911826
15	3.128466	3.054207	3.187670	3.315550	3.183947	3.137811	2.857126
16	3.301478	3.227762	3.330303	3.515944	3.368649	3.292423	2.970065
17	3.293073	3.104511	3.154827	3.386550	3.336078	3.316034	3.052720
18	3.466085	3.277570	3.336454	3.546584	3.521380	3.503652	3.125655
19	3.420089	3.214120	3.262156	3.476746	3.435421	3.400016	3.110958
20	3.593101	3.387176	3.404789	3.676760	3.620123	3.584637	3.183858

	ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES										
	II WINPRE	12 MIN	13 EZCOMP	14 USENFI	15 RESPND	16 CLPTIC	17 UNNFO				
21	3.041183	2.534789	3.052563	3.242853	3.113532	3.088940	2.911845				
22	3.216195	3.107648	3.235155	3.442861	3.251289	3.273558	2.984785				
23	3.168198	3.045368	3.158892	3.330348	3.213325	3.172924	2.570086				
24	3.241211	3.211457	3.301525	3.330662	3.397028	3.37542	3.043028				
25	3.266827	3.110466	3.176348	3.377626	3.287208	3.280370	2.993086				
26	3.268839	3.283525	3.242678	3.318981	3.577640	3.464988	3.066026				
27	3.393842	3.220075	3.224267	3.467821	3.365551	3.364354	3.051325				
28	3.566854	3.393134	3.385311	3.667835	3.570654	3.548972	3.124265				
29	3.014536	2.540743	3.073084	3.233598	3.044112	3.053245	2.852216				
30	3.187949	3.113802	3.215717	3.433942	3.246815	3.237893	2.925156				
31	3.141952	3.050352	3.139414	3.324123	3.162855	3.137260	2.910455				
32	3.214964	3.223411	3.282047	3.524137	3.347558	3.321878	2.983394				
33	3.242816	3.080604	3.214473	3.275370	3.287228	3.221329	3.026227				
34	3.415828	3.357663	3.357105	3.475384	3.471931	3.405947	3.099166				
35	3.365831	3.156413	3.238002	3.365545	3.385971	3.358316	2.784466				
36	3.542843	3.363472	3.423435	3.565579	3.506614	3.485932	3.157405				
37	2.990925	2.511082	3.111209	3.135672	3.064133	2.994235	2.885357				
38	3.117941	3.026651	3.213841	3.356666	3.248835	3.178853	2.998296				
39	3.280951	3.193150	3.320171	3.275867	3.162876	3.078220	2.943595				
40	3.385581	3.086758	3.184454	3.425881	3.347579	3.262833	2.916535				
41	3.255814	3.337627	3.337627	3.270445	3.237758	3.185665	2.966554				
42	3.343585	3.162367	3.261324	3.473459	3.422461	3.370283	3.049533				
43	3.516597	3.366427	3.403957	3.506654	3.521204	3.454267	3.024832				
44	2.964676	2.517036	3.091733	3.126747	3.014663	2.958571	2.825723				
45	3.137691	3.090055	3.234363	3.326741	3.155366	3.143189	2.898663				
46	3.091694	3.026645	3.158060	3.216542	3.113406	3.042555	2.883962				
47	3.264706	3.155764	3.300693	3.416957	3.278109	3.227173	2.956902				
48	3.256332	3.074553	3.164216	3.263543	3.244137	3.250779	3.039556				
49	3.429314	3.250012	3.308849	3.481557	3.453840	3.435357	3.112456				
50											
51	3.383317	3.186562	3.232546	3.373738	3.364880	3.334763	3.097795				
52	3.556329	3.355621	3.375179	3.573152	3.549583	3.519381	3.170734				
53	3.004411	2.507231	3.062952	3.135845	3.043041	3.023665	2.858684				
54	3.177424	3.080550	3.205585	3.335859	3.227744	3.208303	2.971625				
55	3.131427	3.016440	3.129282	3.230640	3.141785	3.107465	2.956925				
56	3.304435	3.185699	3.271915	3.430054	3.326487	3.292285	3.029864				
57	2.230055	3.082508	3.166738	3.274418	3.216667	3.215114	2.976923				
58	3.403067	3.255567	3.289371	3.474632	3.461370	3.365732	3.052862				
59	3.357071	3.192517	3.213067	3.364813	3.315610	3.290095	3.038162				
60	3.530083	3.365674	3.355700	3.544527	3.503113	3.483177	3.111101				
61	2.678165	2.513185	3.042474	3.130520	2.952372	2.980273	2.839053				
62	3.151177	3.086545	3.186107	3.350355	3.178274	3.172633	2.911992				
63	3.278192	3.155654	3.252836	3.421130	3.352315	3.32005	2.87291				
64	3.357757	3.171051	3.245952	3.422115	3.417017	3.370618	3.132492				
65	3.308039	3.344110	3.387925	3.622129	3.611720	3.555236	3.105432				
66	3.484812	3.280660	3.311622	3.512310	3.515760	3.454603	3.090731				
67	3.457824	3.455115	3.452555	3.712324	3.703463	3.639221	2.163673				
68	3.105006	3.001320	2.142028	3.278417	3.193522	3.143524	2.891622				
69	3.278915	3.174388	2.844661	3.478431	3.378624	3.328142	2.964562				
70	3.232922	3.110538	3.238358	3.366612	3.252665	3.227509	2.949861				
71	3.405934	3.283557	3.350951	3.568626	3.477368	3.412127	3.022800				
72											



	11	12	13	14	15	16	17
	MINPLE	MIN	EPICMP	USEFUL	RESEU	CLIPIC	UNFED
73	3.231550	3.177066	3.225914	3.413150	3.367547	3.334954	2.972855
74	3.508562	3.350065	3.368447	3.613204	3.552250	3.515572	3.045768
75	3.448566	3.286614	3.292144	3.503385	3.466791	3.418939	3.031056
76	3.631578	3.455614	3.434776	3.703400	3.653553	3.633557	3.194037
77	3.079660	3.001283	3.122950	3.265993	3.144452	3.107860	2.831585
78	3.252672	3.181342	3.265183	3.465597	3.329155	3.292478	2.904928
79	3.206675	3.116852	3.156880	3.359688	3.243155	3.191844	2.890227
80	3.379687	3.235551	3.311512	3.555702	3.427898	3.376462	2.863167
81	3.371283	3.167700	3.157036	3.262988	3.355526	3.333368	2.945822
82	3.544295	3.340259	3.339664	3.624732	3.580629	3.584686	3.118761
83	3.452258	3.276809	3.263366	3.516483	3.494669	3.444052	3.104060
84	3.711310	3.445668	3.435558	3.716457	3.675372	3.668673	3.177300
85	3.119392	2.957478	3.093772	3.282590	3.172831	3.172974	2.904951
86	3.292405	3.175537	3.236405	3.482605	3.357333	3.357592	2.977891
87	3.244308	3.107087	3.160102	3.372766	3.271574	3.256958	2.963190
88	3.415020	3.280146	3.302734	3.572800	3.456276	3.441576	3.036130
89	3.245016	3.173155	3.177558	3.417363	3.346456	3.364403	2.986188
90	3.518048	3.366214	3.320190	3.617378	3.531155	3.545021	3.059128
91	3.472052	3.282744	3.253887	3.507559	3.445155	3.448388	3.044427
92	3.645064	3.455823	3.384520	3.707573	3.625502	3.633006	3.117366
93	3.093146	3.003433	3.074294	3.213666	3.123361	3.137308	2.845318
94	3.266158	3.113042	3.216926	3.473680	3.308063	3.321927	2.918257
95	3.220161	3.113042	3.143623	3.343861	3.222104	3.221294	2.933557
96	3.363173	3.286101	3.283286	3.563815	3.406467	3.405912	2.916456
97	3.321025	3.147493	3.215682	3.319158	3.346477	3.305363	2.919325
98	3.494037	3.316552	3.336315	3.551122	3.521175	3.485781	3.092268
99	3.448041	3.253102	3.282012	3.405303	3.445220	3.389343	3.077568
100	3.621053	3.426161	3.424644	3.603317	3.625922	3.573966	3.153507

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES



125	3.056374	2.575875	3.044683	3.170658	3.052320	3.072054	2.832154
126	3.229387	3.148534	3.187316	3.370672	3.237523	3.256672	2.905094
127	3.183390	3.065484	3.111013	3.260653	3.151163	3.156339	2.893393
128	3.356402	3.258543	3.253646	3.460668	3.332666	3.406657	2.963333
129	3.428750	3.223235	3.344350	3.561178	3.085520	3.402779	3.106710
130	3.601762	3.394554	3.486583	3.708192	3.652223	3.587397	3.181650
131	3.555765	3.332844	3.410680	3.558373	3.607264	3.486764	3.166945
132	3.728777	3.505503	3.553113	3.753987	3.791366	3.671381	3.239889
133	3.176860	3.053413	3.241086	3.364480	3.284225	3.175685	2.967800
134	3.345872	3.226572	3.183719	3.564594	3.470128	3.360303	3.040780
135	3.503875	3.165122	3.307416	3.454675	3.384168	3.255689	3.026079
136	3.476887	3.336181	3.450345	3.654689	3.568871	3.444287	3.099015
137	3.402503	3.225190	3.324872	3.459253	3.459051	3.367115	3.049077
138	3.575515	3.422246	3.467405	3.652267	3.643753	3.521732	3.122017
139	3.529419	3.338799	3.391201	3.565448	3.557754	3.451059	3.107316
140	3.702531	3.511558	3.533834	3.785462	3.742496	3.635717	3.180255
141	3.150613	3.055468	3.221608	3.355555	3.235955	3.140323	2.908207
142	3.323625	3.232827	3.364241	3.555569	3.420658	3.324638	2.981146
143	3.277628	3.165077	3.287637	3.445750	3.334958	3.224005	2.966446
144	3.450641	3.342136	3.430570	3.645165	3.515401	3.406623	3.039385
145	3.442236	3.215385	3.256094	3.512351	3.487429	3.432228	3.122040
146	3.615248	3.392444	3.438727	3.712351	3.672132	3.616846	3.194979
147	3.569251	3.328894	3.362424	3.602466	3.561372	3.516213	3.180279
148	3.742264	3.502053	3.509056	3.802660	3.770375	3.700831	3.253218
149	3.190346	3.246442	3.192830	3.365153	3.264334	3.205134	2.981177
150	3.463358	3.222722	3.335463	3.568667	3.449336	3.385752	3.054165

ESTIMATED CELL MEANS. ALL GROUPS - CELLS X VARIABLES

	11	12	13	14	15	16	17
	MINORE	MINTA	EZCOMP	USEFED	RESPND	CLRPIC	UNNFO
151	3.317361	3.155271	3.250160	3.458848	3.362377	3.289119	3.039408
152	3.490373	3.332331	3.401752	3.658863	3.547780	3.473737	3.112348
153	3.415989	3.225339	3.276616	3.503426	3.437459	3.396564	3.062406
154	3.589002	3.358308	3.410248	3.703440	3.622662	3.581182	3.135346
155	3.543005	3.334548	3.362945	3.553421	3.536302	3.480545	3.120645
156	3.716017	3.508107	3.495678	3.753636	3.771405	3.665166	3.193588
157	3.164099	3.052417	3.173352	3.383739	3.218464	3.168370	2.921536
158	3.337111	3.226676	3.315684	3.557433	3.393567	3.354388	3.094416
159	3.291114	3.165226	3.235681	3.445524	3.313507	3.253454	2.974775
160	3.464127	3.338265	3.382314	3.645538	3.458310	3.438072	3.052714
161	3.451578	3.155678	3.314740	3.495170	3.437840	3.375524	3.095547
162	3.464591	3.368177	3.457373	3.605185	3.622682	3.522142	3.168486
163	3.618994	3.305287	3.381069	3.455766	3.526723	3.421508	3.153786
164	3.652036	3.478346	3.523702	3.655340	3.721426	3.606126	3.226725
165	3.140088	3.075555	3.211476	3.261343	3.214484	3.113433	2.954677
166	3.313100	3.195014	3.354109	3.461487	3.355587	3.295047	3.027618
167	3.267103	3.135264	3.277805	3.316688	3.312627	3.194414	3.012918
168	3.440116	3.328422	3.422438	3.551482	3.458330	3.379032	3.085855
169	3.365732	3.201632	3.295262	3.356246	3.368510	3.301859	3.035914
170	3.538744	3.374451	3.437854	3.556260	3.573213	3.446477	3.108853
171	3.492747	3.311241	3.361591	3.464441	3.477253	3.385844	3.094152
172	3.445755	3.268400	3.342224	3.684655	3.671956	3.570462	3.167032
173	3.113841	3.031810	3.191568	3.252458	3.216514	3.274765	2.895043
174	3.286854	3.204460	3.314630	3.452362	3.350117	3.256383	2.967583
175	3.240857	3.141515	3.258427	3.342743	3.264458	3.158750	2.933282
176	3.413469	3.314578	3.403460	3.547157	3.448460	3.348368	3.026222

177	3.405464	3.151827	3.266484	3.405344	3.416888	3.366573	3.108876
178	3.578477	3.364866	3.403116	3.653358	3.801591	3.551591	3.181816
179	3.578477	3.301436	3.312813	3.455535	3.515632	3.450958	3.187112
180	3.705492	3.474455	3.475466	3.659553	3.700534	3.615576	3.240052
181	3.153574	3.022105	3.163220	3.281446	3.193793	3.135879	2.568006
182	3.326586	3.193164	3.305852	3.465660	3.378496	3.324497	3.040946
183	3.453612	3.131714	3.279545	3.355841	3.292536	3.223864	3.026245
184	3.280585	3.313713	3.372182	3.558455	3.471235	3.408482	3.099184
185	3.379218	3.304713	3.372182	3.600433	3.367419	3.311309	3.059243
186	3.452730	3.371640	3.334538	3.600433	3.52121	3.515927	3.122182
187	3.530233	3.307990	3.313335	3.650414	3.466162	3.415953	3.107482
188	3.619245	3.486449	3.455968	3.650428	3.650864	3.599311	3.180421
189	3.127427	3.328559	3.433741	3.751721	3.325026	3.134215	2.983373
190	3.303440	3.201118	3.286374	3.456735	3.325026	3.288832	2.981312
191	3.254343	3.131468	3.210071	3.466416	3.293066	3.188199	2.966611
192	3.427355	3.410157	3.352704	3.547916	3.427769	3.372817	3.039551
193	3.506459	3.289025	3.355560	3.747530	3.567769	3.468813	3.101812
194	3.633975	3.395534	3.411889	3.638111	3.752472	3.671431	3.174752
195	3.806487	3.505554	3.584522	3.838125	3.851215	3.755415	3.232491
196	3.255065	3.116202	3.242256	3.474218	3.344673	3.255719	2.963942
197	3.428081	3.284261	3.384928	3.604232	3.525376	3.444337	3.033882
198	3.382084	3.225811	3.304625	3.494413	3.443417	3.343703	3.019181
199	3.555197	3.451258	3.694427	3.628119	3.628119	3.528121	3.092120

ESTIMATED CELL MEANS. ALL GROUPS - CELLS X VARIABLES

201	3.480713	3.251874	3.526081	3.518991	3.518254	3.451148	3.042175
202	3.653725	3.464538	3.665714	3.730055	3.703002	3.635766	3.115116
203	3.637729	3.401488	3.302411	3.625186	3.611742	3.535133	3.100419
204	3.780740	3.574547	3.535046	3.829200	3.801745	3.715751	3.173357
205	3.728822	3.122157	3.272817	3.294253	3.245204	3.224054	2.901309
206	3.278835	3.295216	3.365450	3.555307	3.475906	3.406672	2.578248
207	3.401835	3.231766	3.2849147	3.585488	3.333747	3.304039	2.959548
208	3.355838	3.431766	3.411780	3.655102	3.478649	3.492657	3.332487
209	3.520445	3.292074	3.421703	3.552089	3.546678	3.516262	3.115142
210	3.653458	3.451133	3.435536	3.752103	3.731180	3.700880	3.198081
211	3.657461	3.301683	3.342633	3.642284	3.645421	3.600247	3.173380
212	3.820473	3.643742	3.506266	3.842298	3.833123	3.784865	3.246320
213	3.265555	3.112742	3.154039	3.464351	3.323382	3.473786	2.974271
214	3.395541	3.336672	3.336672	3.664455	3.552325	3.473786	3.032510
215	3.395541	3.221501	3.260369	3.464455	3.621328	3.557771	3.105463
216	3.454583	3.250520	3.433002	3.665630	3.657128	3.490568	3.055508
217	3.661211	3.461088	3.420458	3.743178	3.651310	3.665216	3.128448
218	3.621214	3.291637	3.346155	3.633259	3.631310	3.564582	3.113747
219	3.796226	3.570657	3.466787	3.833374	3.780654	3.749200	3.186680
220	3.242705	3.118706	3.171094	3.355466	3.274112	3.253504	2.914634
221	3.415321	3.291745	3.240491	3.555480	3.458815	3.438122	2.597577
222	3.469324	3.272715	3.485662	3.485662	3.372856	3.337488	2.572877
223	3.420180	3.460574	3.393523	3.485662	3.571558	3.522106	3.345816
224	3.470180	3.258367	3.315549	3.444508	3.471228	3.421558	3.083644
225	3.643200	3.367574	3.362275	3.581033	3.644922	3.606176	3.161588
226	3.597203	3.541035	3.524912	3.751118	3.780674	3.535542	3.146884
227	3.770215	3.541035	3.524912	3.751118	3.780674	3.690163	3.215827

229	3.218298	3.268645	3.212645	3.301211	3.274133	3.194463	2.947776
230	3.191310	3.261704	3.355318	3.501225	3.458835	3.379281	2.020718
231	3.346313	3.152554	3.279015	3.351406	3.373376	3.278443	3.006017
232	3.518125	3.271513	3.421648	3.551420	3.557579	3.463066	3.78957
233	3.443941	3.264321	3.296471	3.435584	3.447158	3.385853	3.029015
234	3.616952	3.437380	3.435104	3.635584	3.632461	3.570511	2.101955
235	3.570957	3.273530	3.336280	3.521175	3.546502	3.465678	2.097254
236	3.743960	3.546589	3.722193	3.731204	3.654456	3.654456	2.160194
237	3.192051	3.254559	3.193207	3.292286	3.224663	3.158799	2.888145
238	3.165063	3.267658	3.338840	3.452300	3.405366	3.343417	2.961085
239	3.319066	3.204208	3.259536	3.382481	3.323406	3.242783	2.946384
240	3.492076	3.251516	3.421655	3.482495	3.451029	3.427401	3.019323
241	3.483674	3.251516	3.421655	3.482495	3.451029	3.427401	3.019323
242	3.656686	3.421575	3.480323	3.542777	3.460340	3.435425	3.174918
243	3.610689	3.364125	3.334023	3.539291	3.455583	3.415610	2.231156
244	3.271784	3.337184	3.476655	3.739291	3.755583	3.723913	2.961108
245	3.437496	3.257653	3.307062	3.503384	3.437144	3.408531	2.034047
246	3.358799	3.194403	3.280759	3.395579	3.311785	3.307397	2.019347
247	3.531811	3.267462	3.373391	3.545593	3.436487	3.492315	3.092286
248	3.457427	3.260471	3.248215	3.440157	3.426667	3.415343	2.042345
249				3.640171	3.611170	3.599961	2.115284
250	3.630440	3.433530	3.350847				

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

MEANS ESTIMATED BY FITTING MODEL OF PANK 9

FULL RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNO	ACCNO	SHOFC	SATSE	DRGNO	MESLE	QUALV	AMTNY	SPKGR	PMPCON
1	-0.051169	0.240354	0.317315	0.337677	0.174758	0.417337	0.437892	0.467346	0.246587	-0.079635
2	0.526367	-0.257479	-0.424342	-0.322404	-0.251171	-0.169327	-0.349899	-0.366824	0.102812	-0.326238
3	-0.667844	-0.436806	-0.073724	0.562514	0.613070	0.139658	0.513911	0.570184	-0.173337	-0.438149
4	0.586610	0.748416	0.155105	0.718433	0.369334	0.309144	0.965347	0.474861	0.394072	0.325876
5	-1.656731	-1.428544	-1.525268	-1.560064	-1.338361	-1.368585	-1.108833	-1.142320	-0.213119	-1.335872
6	-0.412987	-0.441244	-0.053624	-0.534639	-0.362488	-0.301524	-0.775256	-0.527654	0.023633	-0.593445
7	0.537683	0.761524	-0.421366	0.572177	0.74876	0.811761	0.986911	0.618556	0.326731	0.726618
8	-0.501869	-1.232581	0.202080	-0.286587	-0.330383	-0.620746	-0.049679	-0.144835	-0.144824	-0.255593
9	0.548556	-0.230814	0.627091	0.67054	-0.134419	-1.405767	-0.597642	-1.046158	-1.576815	-1.121168
10	-0.645210	-0.410141	-0.522292	-0.615955	-0.227355	-1.196482	-1.035432	-1.392549	-0.112481	-0.221105
11	0.380603	0.480547	0.561196	-0.545483	-0.362314	-0.387457	-0.372023	-0.157340	-0.184005	-0.283016
12				0.772064	0.778707	0.664924	-0.161682	0.375983	0.432993	0.597166
13	0.486197	0.431220	0.278480	0.253448	0.435615	0.440176	0.931727	0.245525	0.861368	0.715255

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCPC	SUPDEC	SATF	CRNFO	MESLN	QUALV	AMTAV	SPKGR	PPPCN
14	0.431267	0.562715	0.486207	0.278650	-0.013929	0.677813	-0.499473	-0.674208	-0.302773	-0.082771
15	-0.108484	-0.011150	-0.605653	-0.180513	-0.106776	-0.556281	-0.159737	-0.167078	-0.106289	-0.069443
16	-0.502690	-0.395518	-0.336730	-0.765566	-0.228523	-0.334734	-0.120617	-0.986314	-0.177814	-0.212868
17	0.442180	0.765577	0.734663	0.726573	0.314140	0.869567	0.378182	0.912288	0.858045	0.789506
18	0.448174	0.385281	0.585281	0.455010	0.678381	0.678381	-0.158437	-0.150104	-0.213479	-0.292405
19	0.905904	0.901032	0.911881	0.652117	0.501885	1.111628	0.008864	0.022385	0.911362	-0.051666
20	0.191923	0.215616	0.180839	0.555578	0.203088	-0.221054	0.225127	0.121270	0.128673	0.183355
21	-0.102283	-0.180378	-0.314789	-0.18438	-0.011335	-0.245402	-0.861463	-0.098828	-0.509519	-0.031889
22	-0.021879	0.467784	0.027516	0.339858	0.448785	0.525565	0.270670	0.244106	0.259674	-0.229915
23	-0.051418	0.503261	0.035800	0.131005	0.239217	0.382170	0.257890	0.361667	0.426244	0.331031
24	-0.387873	-0.101878	-0.823735	-0.545569	-0.733540	-0.658954	-0.592872	-0.229760	-0.440812	-0.168610
25	0.308830	0.227885	0.263246	0.628984	0.167164	0.146355	0.083807	-0.111333	-0.148701	-0.359612
26	0.126162	-0.365584	-0.111744	-0.44429	-0.325271	0.159641	0.211736	0.001544	-0.217695	0.260451
27	-1.082576	-1.585143	-1.585143	-1.112333	-1.053127	-0.507284	-1.672054	-1.637455	-1.559525	-0.501190
28	0.015111	-0.012894	0.024604	0.058212	0.058348	0.090665	0.059167	0.030775	0.005420	0.029249
29	0.079212	0.014347	-0.071735	-0.036637	-0.366437	-0.328943	0.036653	0.060837	-0.028673	-0.077334
30	-0.014952	-0.021862	0.064766	0.012578	-0.045381	-0.248416	0.045847	-0.063039	-0.034834	-0.104815
31	-0.057642	-0.051552	-0.078029	-0.051792	0.134727	0.070094	-0.113225	-0.074241	-0.083906	0.317084
32	0.733423	0.123528	0.226833	0.434168	0.318236	0.566941	-0.079623	0.410380	-0.083906	0.317084
33	0.539214	0.303256	0.577450	0.449085	-0.317523	-1.224074	0.883786	0.152012	-0.155431	0.735173
34	-0.026080	0.137666	-0.120215	0.067654	0.144278	0.339124	0.058641	-0.306571	0.386504	0.070832
35	-0.228163	-0.073882	-0.117347	0.065444	0.026112	0.131253	-0.034234	0.003434	0.018506	0.061891
36	-0.064445	0.137516	0.143526	-0.121817	0.119351	0.090274	-0.148715	0.333548	0.223596	0.457805
37	-0.036804	0.150762	0.127260	0.054463	0.033273	0.025623	-0.180783	-0.194129	-0.140786	-0.101379
38	-0.501192	0.707174	0.550917	0.403053	-0.382089	-1.319031	0.823652	-0.219307	0.769722	0.727513
39	-0.142517	-0.105533	-0.067066	-0.137759	-0.034635	-0.013439	0.086105	-0.042748	0.039802	0.035947
40	-0.077726	0.016718	0.335542	0.422553	0.383322	0.058565	0.060950	0.080052	0.054308	0.191896
41	-0.115583	0.015680	-0.047410	-0.138295	0.078239	0.105569	-0.044233	0.231033	0.091891	0.111112
42	0.043304	0.152217	-0.047368	-0.060651	-0.139227	0.322759	-0.289318	-0.207968	-0.228414	-0.175677
43	0.052304	-0.152217	-0.113346	-0.042942	-0.176315	-0.246575	-0.316911	-0.131073	-0.077795	-0.072845
44	-0.221755	0.207218	-0.113539	-0.340516	-0.150835	-0.348988	-0.320369	-0.324329	-0.223150	-0.238586
45	-0.035309	0.080072	0.018331	-0.005284	-0.062785	-0.159456	0.048035	-0.111530	-0.167291	-0.023255
46	-0.157313	0.116543	-0.135848	-0.338408	-0.062230	-0.172518	-0.204361	-0.135151	-0.195667	-0.218340
47	-0.040857	0.271175	-0.237760	0.005521	-0.147219	0.138305	0.229637	0.181609	0.179499	0.229160
48	0.211166	0.169647	-0.158019	0.113632	-0.185657	0.135654	0.230576	0.252815	0.316963	-0.116459
49	0.313930	0.253550	0.244113	0.045762	0.117008	0.134336	0.187925	0.241545	0.324226	0.219812

RAM RESIDUALS - POKS ARE FULL CELLS - COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCPC	SUPDEC	SATF	CRNFO	MESLN	QUALV	AMTAV	SPKGR	PPPCN
51	0.338326	-0.083735	-0.162619	-0.264778	-1.144521	0.014078	0.370802	-0.057404	0.415733	-0.139449
52	0.594984	-0.735105	0.613009	0.456725	0.027284	-0.263651	-0.203378	-0.214955	0.808543	0.658703
53	0.069566	-0.167654	-0.125482	0.027156	0.321557	0.259380	-0.227440	-0.152282	0.177083	-0.005700
54	0.133152	0.017554	-0.058081	-0.014530	0.01272	0.044950	0.198243	-0.337683	-0.058778	-0.227975
55	-0.214085	0.414473	0.138619	0.015600	-0.052457	0.036225	0.135504	0.225764	0.223235	0.174000
56	-0.358291	0.132146	-0.150763	0.065443	-0.368256	-0.177243	-0.331386	-0.237627	-0.248289	0.192089
57	-0.010375	0.031721	0.154795	0.053672	0.037284	0.048154	0.061615	0.042706	0.031363	0.042849
58	0.035002	0.174368	-0.036255	0.127340	-0.140142	-0.132444	-0.016641	0.054858	-0.144225	0.056895
59	-0.081567	-0.051556	-0.038876	-0.127324	-0.025541	0.021219	-0.023523	0.095977	-0.108469	0.209125
60	-0.349460	-0.244660	-0.335026	0.447220	0.715767	0.804152	-0.392388	-0.824186	-0.035153	0.413407
61	-0.153429	-0.135558	-0.180082	-0.356405	-0.230431	-0.168422	-0.102122	-0.126678	-0.126678	-0.168504
62	-0.103190	-0.076641	0.248913	-0.151179	-0.295973	-0.581860	-0.156562	-0.102122	0.021348	-0.093207
63	0.297436	0.232676	0.111595	0.010181	0.243550	-0.155137	0.372314	0.310745	-0.047651	-0.173144



	1	2	3	4	5	6	7	8	9	10
	AMTNO	ACCNO	SUPFC	SATBF	ORUNFO	MESLEN	DUALVY	AMTRYZ	SPKGRA	PMPCON
66	0.003230	-0.146452	-0.071788	-0.224902	-0.042209	-0.146152	-0.164276	-0.102646	-0.115176	-0.155055
67	0.386489	-0.326163	-0.521959	-0.515822	-0.735620	-0.223731	-0.172413	-0.136471	-0.855266	-0.372983
68	0.137714	-0.325906	-0.553034	-0.605236	-0.353016	-0.310645	-0.785757	-0.515739	-0.180599	-0.546080
69	0.143508	-0.003324	-0.272417	-0.294518	-0.311225	-0.301465	-0.246794	-0.142576	-0.248076	-0.035832
70	0.397662	0.182099	-0.429588	0.031600	0.267685	0.681312	-0.194756	-0.747652	-0.183915	0.693293
71	0.348827	0.684266	-0.004578	0.438187	0.675532	0.257358	-0.767452	-0.802324	0.780419	0.618357
72	-0.101633	0.442230	0.375548	-0.021241	0.764532	0.316343	-0.364367	0.104510	0.134380	-0.071127
73	-0.045886	0.265112	0.375548	0.293676	0.099409	0.316343	-0.327807	-0.208882	-0.437145	-0.653039
74	-0.244972	-0.284521	-0.255442	-0.155738	-0.292727	-0.120371	-0.009984	-0.362672	-0.177185	-0.082975
75	0.499483	0.700502	0.240354	-0.140486	-0.236263	0.082448	-0.175386	0.175338	-0.488135	-0.582184
76	0.215277	0.521174	-0.375995	-0.158922	0.127978	0.058100	-0.305462	-0.221386	-0.273673	-0.830762
77	0.166141	0.523242	0.345015	0.247895	0.535342	0.471385	-0.232328	-0.275177	-0.261992	-0.589301
78	-0.008246	-0.202637	-0.200830	-0.249101	-0.223137	-0.176593	-0.138654	-0.221587	0.189239	-0.497183
79	-0.102451	-0.265298	0.283121	-0.055851	0.141104	-0.067603	-0.138578	-0.001645	-0.016619	-0.112428
80	-0.446273	-0.285803	-0.223264	-0.285853	0.111763	-0.737752	-0.593111	-0.415266	-0.514993	-0.183231
81	-0.418253	-0.046464	-0.341869	-0.193265	-0.201532	-0.626989	-0.036965	-0.077958	-0.168951	-0.159031
82	-0.293857	0.155555	0.046065	-0.007805	0.153605	-0.021247	-0.146824	-0.127177	-0.205890	-0.081708
83	0.511937	-0.353776	0.585345	0.473779	0.838513	-1.212262	-0.183414	-0.191108	-0.198968	-0.235236
84	-1.342591	-0.171551	0.655747	0.565448	-0.272364	-1.107561	-0.184615	-0.181507	-0.163109	0.688438
85	-0.304666	-0.444314	-0.152173	-0.206079	-0.523432	-0.318172	-0.244332	-0.430759	-0.434276	-0.091573
86	0.308466	-0.750368	-1.135089	-0.857562	-0.557454	-0.705185	-0.594758	-0.880817	-0.522467	-0.673484
87	0.453737	0.057753	-0.063696	0.535240	0.378962	0.395116	-0.471787	0.462118	0.113392	0.079491
88	0.298526	0.545132	0.456584	0.354158	0.576537	0.537434	0.421288	0.462118	0.208534	0.328491
89	-0.217256	0.334514	0.283189	0.206284	0.348341	0.470513	-0.830832	0.655778	0.333375	0.820652
90	-0.476950	0.151187	0.133806	0.521202	0.712582	0.779495	-0.294241	0.296387	0.261850	0.738741
91	-0.066655	-0.314046	0.315761	-0.072771	-0.086245	-0.153251	-0.142924	-0.135189	-0.073727	0.018115
92	-0.024264	-0.023818	-0.0313904	-0.002706	0.321766	0.075319	0.073104	0.035745	0.056084	0.012223
93	-0.175490	-0.006141	-0.143214	-0.004517	-0.171578	-0.059997	-0.333746	0.163307	0.033539	0.012774
94	0.3075151	0.333533	0.074150	0.054754	0.058663	-0.027582	-0.065529	0.044762	0.059437	0.017014
95	0.328774	0.177588	0.071041	-0.208994	0.3038541	0.343873	0.101097	0.150557	0.235003	0.023454
96	-0.111652	0.135515	-0.176381	-0.032228	-0.437387	-0.289997	0.123866	0.087950	-0.052208	-0.163033
97	-0.531472	-0.953178	-0.137282	-0.235711	-0.647637	-0.073127	-0.147805	0.032473	-0.533996	-0.278705
98	-0.525678	-0.332504	-0.256655	-0.425556	-0.113076	0.082112	-0.284795	-0.355918	-0.205521	-0.260617
99	0.024192	-0.024011	-0.135594	-0.215532	-0.342158	-0.125317	-0.103683	0.030300	-0.096339	-0.048520
100	0.075718	0.028034	0.178997	0.042152	0.159109	0.160793	-0.021890	-0.006947	0.106646	0.134928

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES



118	-0.187151	-0.032854	0.131657	-0.051067	-0.130753	0.230579	-0.209805	-0.350195	-0.257621	-0.212767
119	-0.443707	-0.172043	-0.358885	-0.550084	-0.287561	-0.193088	-0.203118	-0.224777	-0.132779	-0.257742
120	-0.021982	0.058558	-0.377656	0.081291	-0.052901	0.268322	0.325374	0.375482	0.510388	0.239643
121	-0.041184	-0.055330	0.097961	0.131626	0.161340	0.252307	0.062784	0.291090	0.038863	0.146268
122	0.103682	0.726185	0.472354	0.327295	0.354463	0.193392	-0.088416	-0.295308	-0.475277	0.155707
123	-0.056993	0.284456	0.075771	-0.151121	0.197962	-0.217740	0.041660	-0.112700	-0.046802	-0.289538
124	-0.270593	-0.262474	0.312342	-0.347770	-0.285775	-0.635327	-0.899860	-0.637542	-0.474022	-0.581317
125	-0.258917	-0.441861	0.072342	-0.650338	-0.354105	-0.473431	-0.329828	-0.289169	-0.571143	0.070791
126	0.052821	-0.593640	0.198137	-0.214675	-0.045777	-0.035767	0.057558	0.220533	-0.282236	0.074041
127	-0.074719	0.253699	0.048754	-0.003337	0.015164	-0.026782	-0.105713	-0.16452	-0.220428	-0.174537
128	0.446402	-1.254211	0.154916	-0.522182	-0.238254	-0.148310	-0.387013	-0.238282	-0.290611	-0.273746
129	0.752196	-0.100206	-1.161133	0.337559	0.641332	-0.148310	-0.423600	0.331660	-0.290611	-0.273746
130	0.157267	-0.452044	0.175926	0.228768	0.645658	0.422657	0.175195	0.167928	0.145245	0.246318
131	0.060234	0.146557	-0.140885	0.243485	0.381328	0.145928	-0.175676	-0.065749	-0.326276	-0.292737
132	0.036553	0.086267	-0.331590	0.161648	0.335866	0.158891	-0.02036	0.112592	-0.022586	-0.011115
133	-0.026466	-0.031164	0.072937	0.074955	0.035630	0.304296	0.123926	0.344649	0.133266	0.183062
134	0.397674	0.296557	-0.01501	-0.457332	0.035521	0.037412	-0.004916	-0.057764	0.198159	0.242282
135	-0.002011	0.071519	0.298336	-0.470330	-0.253318	-0.645951	0.124737	0.265740	0.043389	-0.002960
136	0.161198	-0.611850	-0.288336	0.307887	0.613232	0.063036	0.710717	0.706349	0.795335	0.703814
137	0.466992	0.688823	0.562281	0.307887	0.613232	0.322039	0.123485	0.167751	0.125817	0.117532
138	0.247336	-0.032829	0.078944	0.307887	0.613232	0.322039	0.123485	0.167751	0.125817	0.117532
139	-0.054465	0.115773	0.140327	-0.011557	0.027673	0.021255	0.112005	0.152908	0.149362	0.199174
140	0.073787	-0.106641	0.020402	0.049349	0.204206	-0.021255	0.112005	0.152908	0.149362	0.199174
141	-0.035418	0.003658	-0.037703	0.016044	0.035280	-0.134953	0.103197	0.018406	0.119504	0.117262
142	0.338978	0.205746	0.093453	0.251059	0.111084	-0.487528	-0.608370	-0.242765	-0.505655	-0.141998

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	11	12	13	14	15	16	17
	MINPRE	MININ	EZCOMP	USEFEC	RESFND	CLIPIC	UNNFO
1	0.553746	0.553746	0.422584	-0.117623	0.308998	0.380082	0.127276
2	-3.406603	-2.217671	-3.310413	-3.412572	-3.456312	-3.370369	-3.397629
3	-0.579615	-0.351030	0.348555	-0.172566	0.358765	0.444813	0.329431
4	-1.746455	0.455664	0.275395	0.265464	0.691701	0.249080	-0.979157
5	-1.553368	-1.356564	-1.433567	-1.63662	-1.591745	-1.519523	-0.110935
6	-0.693073	-0.304511	-0.505827	-0.186550	-0.736678	-0.516034	-0.282720
7	-0.420085	-0.214120	0.737844	0.132254	0.54579	0.599981	0.889042
8	0.406899	-0.12821	-0.404785	0.122314	0.315877	0.415363	0.816102
9	-1.26827	-0.110466	-1.242678	0.532179	-0.287208	-0.280370	0.506914
10	-0.606158	-0.397134	-0.385311	-0.667835	-0.512654	-0.548972	-0.513325
11	-3.566854	-0.397134	-0.385311	-0.667835	-0.512654	-0.548972	-0.513325
12	0.557184	0.015156	0.6485527	0.520630	0.512772	0.578671	0.073772
13	0.250834	0.12804	0.642855	0.520630	0.512772	0.578671	0.073772
14	-0.169831	0.205697	-0.080802	0.230435	0.614025	0.294686	0.115534
15	0.183431	0.112242	0.405006	0.525555	0.362242	0.413335	-0.566594
16	-0.380581	-0.259718	-0.337427	-0.471455	-0.422461	-0.373283	-0.036533
17	0.656415	0.403613	0.738676	0.635360	0.663495	0.730351	0.975168
18	0.483403	0.082564	0.566093	0.439346	0.478756	0.545733	-0.197772
19	0.077032	0.173047	0.490870	0.333784	0.585337	1.041429	0.174277
20	-0.229314	-0.050012	-0.308845	-0.283557	-1.350640	-1.235397	-0.512496
21	0.616683	0.140771	0.100787	0.661105	0.164703	0.331503	0.235338
22	-0.015099	0.058513	-0.355825	-0.52493	0.146469	-0.333296	-0.292834
23	-0.448237	-0.054465	0.140327	-0.027368	0.585630	0.200268	0.147138
24	-0.003067	-0.144033	0.310629	0.425368	-0.585630	-0.317050	-0.111101
25	-0.243616	-0.158500	-0.180034	-0.358161	-0.333446	-0.317050	-0.111101
26	0.521835	0.586815	-1.547474	-1.133020	-2.553372	0.511680	-0.839052
27							



	11	12	13	14	15	16	17
	MTNPF	MTNIN	EZCOMP	USINFO	RESPNU	CLSPIC	UNINFO
80	-0.437883	-0.383664	-0.155447	-0.445266	-0.052278	-0.388175	0.179548
81	-0.358673	-0.357036	-0.357036	-0.216713	-0.334759	-0.106126	-0.060055
82	-0.197245	-0.171857	-0.171857	-0.118439	-0.118439	-0.222904	-0.379857
83	-0.686900	-1.354109	-0.411487	-0.630413	-0.285047	-1.027616	-0.987084
84	-0.267103	-0.135564	-0.722195	-0.686373	-1.194414	-0.3119247	-0.442186
85	-0.115732	-0.118259	-0.211928	-0.221843	-0.311859	-0.153144	-0.239181
86	-1.295411	-1.041358	-1.04561	-0.515579	-0.506546	-0.52511	-0.332938
87	-0.173919	-0.35426	-0.638409	-0.100226	-0.153920	-0.429538	-0.604957
88	-0.144241	-0.265700	-0.245776	-0.316455	-0.378354	-0.425235	-0.532017
89	-0.386159	-0.468090	-0.308002	-0.217452	-0.334566	-0.240617	-0.108876
90	-0.713164	-0.295031	-0.65370	-0.547438	-0.649483	-0.043030	-0.025332
91	-0.059324	-0.005356	-0.012563	-0.01392	-0.050154	-0.036133	-0.130078
92	-0.062549	-0.018732	-0.103704	-0.070129	-0.000973	-0.228736	-0.162119
93	-0.088035	-0.249359	-0.073554	-0.05064	-0.138224	-0.057685	-0.143105
94	-0.001030	-0.055712	-0.080055	-0.11564	-0.028429	-0.137999	-0.399769
95	-0.068648	-0.255673	-0.059003	-0.13243	-0.052053	-0.089203	-1.226245
96	-0.026335	-0.155164	-0.175382	-0.112719	-0.425536	-1.223864	-0.299184
97	-0.119411	-0.068286	-0.170451	-0.515841	-0.277239	-0.308482	-0.076437
98	-0.353602	-0.404773	-0.272182	-0.315855	-0.277239	-0.076437	-0.068404
99	-0.065492	-0.057121	-0.311711	-0.047478	-0.334355	-0.172962	-0.055516
100	-0.158881	-0.272604	-0.054806	-0.105123	-0.225656	-0.172962	-0.055516
101	0.023175	-0.185743	-0.015217	-0.018768	-0.113221	-0.179999	-0.107482
102	-0.086653	-0.075106	-0.362551	-0.066531	-0.034321	-0.066755	-0.124866
103	-0.050404	-0.143444	-0.105280	-0.012510	-0.135842	-0.126555	-0.168550
104	-0.300340	-0.276041	-0.021318	-0.012120	-0.021334	-0.395783	-0.318688
105	-0.054343	-0.337668	-0.210071	-0.306516	-0.043066	-0.588199	-0.033385
106	-0.358359	-0.332130	-0.433011	-0.310212	-0.215088	-0.015674	-0.031878
107	-0.493041	-0.714035	-1.345560	-0.507516	-0.367765	-0.313187	-0.398188
108	-0.320028	-0.458584	-0.511808	-0.202070	-0.247528	-0.328565	-0.174752
109	-0.381975	-0.104466	-0.411889	-0.139111	-0.416512	-0.320737	-0.660051
110	-0.081922	-0.013037	-0.112145	-0.00764	-0.146765	-0.022362	-0.121875
111	-0.389804	-0.382788	-0.128464	-0.07373	-0.154663	-0.360239	-0.314906
112	-0.346275	-0.265042	-0.031286	-0.010595	-0.296958	-0.342234	-0.149582
113	-0.302272	-0.346512	-0.107589	-0.10814	-0.132558	-0.214867	-0.173357
114	-0.030760	-0.324567	-0.285044	-0.09200	-0.198259	-0.280249	-0.173357
115	-0.020445	-0.217576	-0.358359	-0.01768	-0.36113	-0.126555	-0.670573
116	-0.096542	-0.044667	-0.039936	-0.112103	-0.016620	-0.100880	-0.138081
117	-0.047461	-0.301683	-0.613633	-0.642284	-0.645421	-0.600247	-0.423380
118	-0.036673	-0.064747	-0.377654	-0.044845	-0.34409	-0.070579	-0.039354
119	-0.264555	-0.112352	-0.194039	-0.418351	-0.323552	-0.289168	-0.025725
120	-0.255801	-0.211672	-0.222175	-0.01836	-0.02792	-0.019402	-0.319492
121	-0.032789	-0.039512	-0.375542	-0.068822	-0.118050	-0.065216	-0.471552
122	-0.128786	-0.147637	-0.094155	-0.36641	-0.04045	-0.435418	-0.363747
123	-0.210853	-0.237373	-0.153454	-0.116707	-0.113597	-0.165867	-0.363314
124	-0.234894	-0.155543	-0.433596	-0.217261	-0.320758	-0.245087	-0.359237
125	-0.428914	-0.355577	-0.387153	-0.410637	-0.467645	-0.463318	-0.375874
126	-0.036882	-0.367576	-0.3046546	-0.11543	-0.355371	-0.327751	-0.646888
127	-0.056059	-0.125672	-0.075088	-0.111549	-0.05593	-0.041173	-0.153160
128	-0.381047	-0.235679	-0.296471	-0.044016	-0.522242	-0.114107	-0.470985
129	-0.229043	-0.562620	-0.712437	-0.010669	-0.255128	-0.425485	-0.101955
130	-0.117540	-0.226070	-0.247203	-0.413821	-0.443458	-0.668878	-0.487254
131	-0.117540	-0.024435	-0.065955	-0.110550	-0.010315	-0.383067	-0.125521

FAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCND	SUPDF	SATRF	CRDNF	MESLN	QJALV	AMTNY	SPKGR	PMPON
132	0.029147	0.130099	-0.113847	0.03858	0.113007	0.113096	-0.025055			
133	0.07500	0.08453	0.171070	0.164858	0.036435	0.085305	0.121408			
134	0.235465	0.326183	0.127516	0.15331	0.271274	0.271122	0.147475			
135	0.010819	0.016636	0.057591	0.026962	0.037540	0.086610	-0.082471			
136	-0.231784	-0.084754	-0.164425	-0.305382	-0.253342	-0.223913	0.038892			
137	0.595234	0.742147	0.692938	0.494602	0.562256	0.591469	0.965953			
138	0.121520	0.102576	0.225670	0.191422	0.055645	0.215000	0.273445			
139	-0.035530	0.111625	0.118244	0.041647	-0.223461	0.399061	0.202898			
140	0.103057	0.192420	0.185656	0.032148	0.055590	0.125673	0.086916			
141	-0.007455	-0.183028	0.058379	-0.035922	0.033887	-0.017278	0.104255			
142	-0.205537	0.242555	0.188383	0.310208	0.463355	0.478418	-0.234808			
1	-0.122707	0.301162	0.421179	0.405052	0.155500	0.452811	0.612321	0.624759	0.346789	-0.097886
2	0.708445	-0.08168	-0.545201	-0.105260	-0.710510	-0.438307	-0.927729	-0.923879	-0.357770	-0.071887
3	-0.068869	-0.542117	-0.057856	0.470650	0.655706	0.151511	1.146468	1.115498	-0.226266	-0.499645
4	0.785535	0.538013	0.244776	0.311778	0.421754	0.586303	1.211755	0.66729	0.512628	0.399050
5	-0.229840	-0.785560	0.024420	-0.311778	-0.553899	-0.454736	-0.391654	0.644351	-0.518084	-0.435328
6	-0.555844	-0.52876	0.071176	-0.341037	-0.413713	-0.327115	-0.573027	-0.05557	-0.309125	-0.372478
7	0.723651	0.553334	-0.555868	0.586341	0.350138	0.980655	1.238608	1.175566	1.205458	0.895006
8	0.462564	0.727134	0.268225	0.164248	-0.446120	0.673429	-0.062369	0.185666	-0.188394	-0.434940
9	-0.213851	-0.344520	0.164248	-0.153414	-0.153414	-0.746388	-0.252076	-0.333389	-0.051198	-0.372503
10	0.738508	-0.285509	0.832451	0.743275	-0.253141	-0.298027	1.299504	-0.42343	0.166320	-0.470355
11	-0.068436	-0.513505	-0.693245	-0.078312	-0.414365	-0.203863	-0.050392	-0.231566	-0.239363	-0.346461
12	0.511594	0.621274	0.744888	0.626111	0.888750	0.720922	0.202918	0.584551	0.263128	0.731034
13	0.454386	0.533226	0.365633	0.124248	0.467500	0.777534	1.131199	0.319868	1.120504	0.875595
14	0.580455	0.730139	0.45352	0.104257	0.015957	0.735336	-0.826856	-0.864273	-0.938862	0.101326
15	-0.146012	-0.014021	0.409205	-0.16531	0.121365	0.803493	0.895371	0.214179	-0.138266	0.085010
16	-0.676585	-0.485317	0.975134	-0.435442	0.621342	-0.254555	-0.151379	-0.122465	-0.231305	-0.260058
17	0.403210	-0.466601	0.776555	-0.17116	0.774247	0.36141	-0.198807	-0.152419	1.116187	0.966491
18	1.219281	1.128589	1.21355	1.071316	1.264461	0.235814	0.282542	0.168225	0.185544	-0.063248
19	-0.258315	-0.226013	0.240331	-0.115027	0.374494	-0.266229	1.081166	0.126689	0.662837	0.039038
20	-0.406851	-0.226013	0.015630	-0.262022	-0.065225	-0.266229	0.339700	0.312922	0.337796	-0.281455
21	-0.021339	0.561131	0.026885	0.157144	0.330387	0.570170	0.323660	0.75052	0.554479	0.505239
22	-0.069205	0.631102	0.052827	0.157144	0.330387	0.570170	0.323660	0.75052	0.554479	0.505239
23	-0.522045	-0.127453	-0.052827	0.157144	0.330387	0.570170	0.323660	0.75052	0.554479	0.505239
24	-0.615663	-0.285539	0.052827	0.157144	0.330387	0.570170	0.323660	0.75052	0.554479	0.505239
25	-0.170074	-0.463543	0.052827	0.157144	0.330387	0.570170	0.323660	0.75052	0.554479	0.505239
26	-0.457069	-0.583442	-0.133454	-0.345412	-0.133454	-0.345412	-0.133454	-0.345412	-0.133454	-0.345412
27	0.047576	-0.014157	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827
28	0.106614	0.017577	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827
29	-0.077582	-0.021253	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827
30	0.587131	-0.063652	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827
31	0.725744	-0.075578	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827	0.032658	-0.064827
32	0.035102	0.172671	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
33	-0.030709	-0.029573	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
34	-0.086738	0.172604	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
35	0.674556	-0.235024	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
36	-0.192356	-0.132154	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
37	0.104614	0.020548	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
38	-0.159636	-0.021618	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564	0.155564
39										
40										
41										

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES



42 0.058291 0.024717 -0.079914 -0.048522 -0.215368 0.002993 -0.363857 -0.265556 -0.297132 -0.215059  
 43 0.070397 0.015128 0.135161 0.135161 0.135161 0.158545 -0.015891 -0.062174 -0.062174 -0.069174  
 44 0.063877 -0.150247 -0.150247 -0.051030 -0.267501 -0.377755 -0.377755 -0.168024 -0.290270 -0.290270  
 45 -0.298467 -0.255168 -0.150304 -0.417454 -0.172150 -0.637891 -0.402877 -0.417454 -0.191603 -0.419933  
 46 -0.047119 0.100267 0.074331 -0.011143 -0.071657 -0.173531 -0.060285 -0.142971 0.105609 0.105609  
 47 -0.288143 0.168337 0.144173 -0.018713 -0.071923 -0.187159 -0.256480 -0.176430 -0.287286 -0.287286  
 48 -0.054490 0.340572 -0.315583 0.007129 -0.168323 0.150043 0.288202 0.232806 0.233501 0.280531  
 49 -0.284214 0.212818 -0.209742 0.136305 -0.216458 0.147167 0.038374 0.375362 0.412320 -0.142566  
 50 0.422557 0.367817 0.374017 0.055890 0.133553 0.341014 0.235872 0.305638 0.421769 0.259087

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCNEC	SUPDEC	SATRE	ORONFO	MESLEN	QUALVY	AMTYZ	SPKGRA	PPPCON
51	0.455362	-0.134519	-0.215848	-0.317668	-1.316259	0.015273	0.465370	-0.124863	0.540806	-0.170709
52	0.800806	0.926055	-0.813659	0.547853	0.715700	-0.286027	-0.255458	-0.275079	1.051792	0.855333
53	0.120590	-0.275180	-0.165555	-0.032622	-0.025030	0.281610	0.285947	0.195211	0.230258	-0.118774
54	-0.174213	0.022055	-0.077093	-0.017420	0.013778	0.047831	0.248802	-0.432879	-0.076461	-0.219080
55	-0.288143	0.515333	0.144173	-0.018713	-0.059916	-0.039300	0.170062	0.285410	0.290396	0.213006
56	-0.442233	-0.165377	-0.253204	-0.063346	-0.443123	-0.192282	-0.377873	-0.304616	-0.322987	0.233149
57	-0.013965	-0.035746	0.205642	0.112267	0.042552	0.052241	0.077325	0.056328	0.040798	0.052455
58	0.047110	0.216483	-0.048121	0.152767	-0.159946	-0.143685	0.020885	0.121651	0.187750	0.073322
59	0.177363	-0.447576	0.305535	0.426458	0.159946	0.333903	0.302923	0.123034	-0.141102	0.256005
60	-0.109784	-0.114720	-0.051601	-0.146731	-0.325150	-0.132483	0.026640	0.025505	0.073950	-0.207421
61	-0.470867	-0.081841	0.451762	0.275654	0.971860	0.537191	-0.115950	-0.141116	-0.071746	0.506082
62	-0.463484	-0.302558	-0.410177	0.457405	0.816916	0.877400	1.093163	1.056531	-0.164789	-0.206278
63	-0.415650	-0.170355	-0.290207	-0.475458	-0.263351	-0.187716	0.164691	0.120923	0.027770	-0.114102
64	-0.138887	-0.068764	0.329591	0.222126	0.341907	-0.631325	0.075075	0.183699	0.020066	-0.282385
65	0.400327	0.291752	0.148122	0.012127	0.277567	0.168303	0.467527	0.398347	-0.061987	-0.211938
66	0.004347	-0.183503	-0.116522	-0.265776	-0.049174	-0.158555	0.206172	-0.003592	0.155030	0.189814
67	0.520671	-0.405661	0.692802	-0.618741	0.844143	-0.242719	-0.216385	0.167252	-0.234672	-0.457820
68	0.454538	-0.405566	-0.734054	-0.730754	-0.402902	-0.336792	-0.303735	1.045704	-0.558423	-0.688496
69	0.153151	-0.004165	-0.266773	-0.353043	0.012312	-0.001584	-0.307735	-0.558423	0.322709	-0.042864
70	0.469496	0.329427	0.006076	0.525616	0.773448	0.251661	0.963175	1.025674	1.015207	0.854831
71	-0.061692	0.354124	0.364921	-0.025479	-0.873448	0.279200	0.457330	0.133572	0.174808	-0.087072
72	-0.395714	-0.357005	-0.397455	0.235991	-0.114027	0.343191	0.411405	0.267767	0.568660	-0.799432
73	0.551134	-0.357005	0.318620	-0.185516	-0.286651	0.089445	0.220115	-0.086340	0.230497	-0.101576
74	0.289747	0.653029	-0.100870	-0.156607	0.146643	0.089445	0.220115	0.224768	0.634990	-0.112693
75	0.223614	0.655745	0.463255	0.257104	0.610593	0.053031	0.383366	-0.283757	0.356008	-0.016995
76	-0.011098	-0.253503	-0.265663	-0.257104	-0.254670	0.511392	-0.291580	-0.752751	0.340812	-0.721506
77	-0.137892	-0.332417	0.375792	-0.257104	-0.254670	0.511392	-0.291580	-0.752751	0.340812	-0.721506
78	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
79	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
80	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
81	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
82	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
83	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
84	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
85	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
86	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
87	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
88	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
89	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
90	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
91	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
92	-0.600647	-0.355604	-0.292361	-0.343016	0.020342	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631
93	-0.395511	-0.056219	-0.453773	-0.231826	-0.230312	-0.073448	-0.194581	-0.021109	-0.244871	-0.137631



	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCNEC	SUPDFC	SATRRF	ORONFO	WESLEN	QUALVY	AMTVZ	SPKGRA	PMPCON
94	0.101148	0.042017	0.058421	0.112768	0.112834	-0.059923	0.083456	0.057381	0.077319	0.020828
95	0.442506	0.223018	0.094294	0.250659	-0.026793	0.378327	0.001377	0.244328	0.305704	0.028711
96	0.150330	0.170361	-0.234115	-0.002673	-0.498854	-0.314609	0.037483	0.112755	0.087915	-0.315983
97	-0.715323	-0.194329	-0.182218	-0.267851	-0.542628	0.079333	-0.185500	0.004453	-0.694848	-0.341183
98	-0.707525	-0.416429	-0.380497	-0.505863	-0.127914	0.089081	-0.356925	-0.461382	-0.267351	-0.319040
99	0.032560	-0.333055	-0.155286	-0.258580	-0.048116	-0.135952	-0.137405	0.038842	-0.125323	-0.059397
100	0.101437	0.035127	0.237587	0.050563	0.1175887	0.174439	-0.027472	-0.068906	0.138730	0.165175
101	-0.007181	-0.027270	-0.128666	0.146410	0.204217	0.131597	0.208904	0.244378	0.210885	-0.061240
102	0.091639	0.173333	0.118388	0.107333	-0.022836	0.200926	0.296962	0.254487	0.116424	0.275881
103	0.049084	0.106658	0.328781	0.010265	0.085778	0.114393	0.026568	-0.001788	0.021248	-0.201931
104	-0.527407	-0.312607	0.028400	-0.304018	0.134215	-0.092833	-0.018954	-0.181659	0.128336	-0.168954
105	-0.161995	0.065020	0.648825	-0.476872	0.055366	-0.014479	-0.468550	-0.485447	-0.085447	-0.236925
106	0.268805	0.395227	-0.107600	0.245601	0.299343	0.188625	0.368053	0.200169	0.053350	0.259108
107	-0.920146	-1.632237	-2.680061	-1.514245	-1.514245	-1.584794	-0.395451	-0.279449	-0.233559	0.135284
108	0.183286	0.645058	0.455945	0.262258	0.613142	0.520154	0.813662	0.921159	0.974247	0.647096
109	0.042055	-0.063276	0.763623	0.336336	-0.045616	-0.993398	-0.384155	-0.348403	-0.588003	0.037427
110	-0.032394	0.234109	0.217530	0.015615	-0.126849	-0.417707	-0.370456	0.424942	-0.083920	0.141882
111	-0.029798	-0.027162	-0.846101	-0.476276	-0.341154	-0.169183	0.146976	0.176670	0.306766	0.168119
112	0.198243	0.264162	0.524272	0.283142	0.359348	0.238994	0.158102	0.264214	0.272853	0.123489
113	0.393498	0.260326	0.291185	0.363101	0.123737	0.551146	-0.670354	-0.276522	0.319500	0.431950
114	0.132133	-0.277620	0.092907	0.171090	-0.031207	0.145920	-0.830602	0.125217	0.226457	-0.280410
115	-0.075394	0.355615	-0.001477	0.184728	0.152317	0.241979	0.278284	0.553687	0.175584	0.462311
116	-0.371394	0.108268	-0.067024	-0.081224	0.037373	0.042758	0.169595	-0.008611	0.231610	-0.206328
117	0.394046	0.586280	0.562648	0.025835	0.037190	0.253582	-0.263313	-0.448918	-0.335125	-0.509354
118	-0.251892	-0.041165	0.174752	-0.043656	-0.328157	-0.209476	0.254921	0.285155	-0.172726	-0.315521
119	-0.597198	-0.215569	-0.529443	-0.101110	-0.060377	0.291095	0.407101	0.484461	0.050555	-0.179057
120	-0.028587	-0.065224	0.130125	0.156689	0.184140	0.273721	-0.110566	0.373151	0.403768	0.288468
121	-0.055437	-0.085228	0.426963	-0.386601	0.404554	-0.235905	-0.110566	-0.383686	0.018264	0.190612
122	0.409004	0.505882	0.406655	-0.232533	-0.225337	-0.236223	0.352285	-0.144471	-0.060883	-0.317719
123	-0.076705	-0.585878	0.414578	-0.117568	0.230124	-0.689247	-0.752371	-0.817271	-0.916631	-0.711632
124	-0.364199	-0.324879	0.414578	-0.117568	0.230124	-0.689247	-0.752371	-0.817271	-0.916631	-0.711632
125	-0.348483	-0.554575	-0.720633	-0.555113	-0.434166	-0.513579	-0.413945	-0.370583	-0.098742	-0.086660
126	-0.071093	-0.743528	0.262591	0.257153	-0.356113	-0.338302	0.122421	0.282575	-0.57232	0.090639
127	-0.100566	0.368004	0.064712	-0.064483	0.217368	0.029055	-0.132674	-0.057800	0.365427	-0.335112
128	0.000825	-0.125157	0.205623	0.626370	0.271769	-0.227140	-0.485711	0.340585	-0.378041	-0.027328
129	0.339434	-0.1541157	0.541157	0.404355	-0.273154	-0.163488	-0.531633	0.340585	-0.378041	-0.027328
130	0.265507	-0.017008	0.238820	0.274413	0.538636	0.458528	-0.531633	0.340585	-0.378041	-0.027328
131	-0.081030	-0.111545	-0.166599	0.292307	0.022121	0.158312	-0.220880	-0.138354	0.188946	0.301535
132	-0.035621	-0.064286	0.116750	0.049511	0.045203	0.034755	-0.089667	-0.144332	-0.329381	-0.358360
133	-0.035621	-0.064286	0.116750	0.049511	0.045203	0.034755	-0.089667	-0.144332	-0.329381	-0.358360
134	-0.035621	-0.064286	0.116750	0.049511	0.045203	0.034755	-0.089667	-0.144332	-0.329381	-0.358360
135	-0.002707	0.050114	-0.001953	-0.001953	-0.235592	-0.700773	0.310375	0.345763	0.257775	0.256554
136	0.218461	0.351705	-0.382715	-0.382715	0.750795	0.719335	0.891375	0.905475	1.034611	0.861589
137	0.628537	0.663652	0.164371	0.425595	0.750795	0.719335	0.891375	0.905475	1.034611	0.861589
138	0.332578	-0.011679	0.106475	0.430471	0.117284	0.349370	0.154977	0.215042	0.163669	0.180604
139	-0.073406	0.220443	0.252615	-0.038333	0.038758	0.147334	-0.086106	-0.056360	0.122667	-0.259382
140	-0.045476	-0.136127	0.027010	0.057595	0.233063	-0.073059	0.140576	0.247291	0.194297	0.243823
141	-0.047671	-0.004433	-0.051311	0.019245	0.131956	0.146406	0.129516	0.023555	0.155456	0.143549
142	0.456239	0.267811	0.174043	0.308349	0.126782	-0.528934	-0.763526	-0.311232	-0.657781	-0.173830

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	11	12	13	14	15	16	17
	MTNPRE	PINTA	EZCOMP	USFAFC	RESPND	CLRPIC	UNNFO
1	0.666525	0.601837	0.521512	0.142089	0.367382	0.481091	0.132573
2	-4.100407	-3.461822	-4.085394	-4.154881	-4.111636	-4.266320	-3.226542
3	-0.697662	-0.421519	-0.357547	-0.208495	0.427412	0.563025	0.363141
4	0.408728	0.954742	0.339867	0.756872	0.824006	0.315274	-1.020531
5	-1.468735	-1.505910	-1.765171	-2.005710	-1.856206	-1.923346	-0.115552
6	-0.434228	-0.328254	-0.735112	-0.708555	-0.677586	-0.652174	-0.262327
7	-0.505646	-0.231815	-0.910576	-0.632093	-0.672569	-0.759430	0.928041
8	-0.449770	-0.661604	-0.495552	-0.355479	-0.452538	-0.525749	0.850066
9	-1.524835	-0.119079	-1.451736	-0.147829	-0.242143	-0.354880	0.528010
10	-0.725611	-0.237234	-1.533594	-0.642874	-0.731501	-0.804573	-0.053461
11	-0.682302	-0.423787	-0.475513	-0.406747	-0.675805	-0.694865	-0.129436
12	0.670663	0.026693	0.846012	0.628923	0.610852	0.732456	0.076843
13	0.301926	0.444591	0.793399	0.628906	0.629376	0.330007	0.938323
14	-0.204420	-0.225929	-0.099718	-0.218366	-0.731477	0.373001	0.120342
15	-0.220789	-0.122771	-0.499819	-0.637054	-0.631529	-0.524647	-0.590173
16	-0.468925	-0.286076	-0.416663	-0.543316	-0.532267	-0.468688	-0.304178
17	-0.790104	-0.866253	-0.911603	-0.773249	-0.755405	-0.924446	-1.015751
18	0.581855	0.675741	0.735580	0.536731	0.570378	0.690765	-0.101841
19	0.042515	0.085433	1.120465	1.054453	1.173807	1.318196	0.181529
20	0.092720	0.186540	0.411924	0.060147	0.377868	0.209974	0.045555
21	-0.276017	-0.516289	-0.381152	-0.342538	-1.251339	-1.310560	-0.533824
22	0.742279	0.156215	0.124382	0.353459	0.359511	0.420109	0.245341
23	0.018174	0.151324	0.154043	0.083479	0.194207	0.246702	-0.029037
24	-0.058061	0.106423	-0.068895	-0.112103	0.175381	-0.342145	0.304990
25	-0.003692	0.155264	0.383349	0.434646	0.713133	0.253450	0.153261
26	-0.437431	-0.214419	-0.233287	-0.480980	-0.372226	-0.401308	-0.115725
27	0.628115	0.432570	-1.904807	-1.366156	-3.566167	-0.648342	-0.873971
28	0.028405	-0.003851	0.012985	0.051564	0.068381	0.037190	0.067895
29	0.015709	0.073486	0.051708	0.064398	-0.048028	-0.014400	0.082057
30	0.036518	-0.139215	0.044191	0.014645	0.071473	0.038283	0.000185
31	0.010643	-0.024031	-0.026331	-0.029140	-0.022956	-0.038638	-0.110058
32	-1.231141	-1.076604	-0.175278	0.267673	0.354922	1.084397	0.4633697
33	0.867940	0.885587	0.351301	0.630057	0.740225	0.850408	-1.004703
34	0.080434	0.010765	-0.017810	0.095556	0.027038	0.059693	-0.047945
35	-0.113513	-0.106557	0.319954	-0.365060	-0.166154	-0.135912	-0.047704
36	0.214009	0.034026	0.424803	0.215547	0.202604	0.217673	0.204335
37	0.056565	0.081570	-0.135883	0.145580	0.117344	0.230567	-0.071166
38	0.746648	0.705413	0.824653	0.531682	0.681531	0.789247	1.079683
39	-0.176690	-0.048241	0.071659	-0.083528	-0.106681	-0.015585	-0.075615
40	0.091954	0.065574	0.112755	0.003634	-0.037454	-0.008986	0.010588
41	-0.359051	0.132756	0.168621	-0.382213	-0.112777	-0.359541	-0.108391
42	0.072698	0.046894	-0.139843	0.136228	0.091401	-0.012827	-0.006525
43	-0.133599	-0.111845	0.043451	-0.186444	0.018162	0.104305	-0.096424
44	-0.142091	-0.243852	-0.123645	-0.117632	-0.037119	-0.239255	-0.165750
45	0.251565	0.465169	-0.829884	-0.267589	-0.360173	-0.386728	-0.343881
46	0.066125	0.115466	-0.025001	-0.005143	0.024388	-0.041778	0.121793
47	-0.311178	-0.289428	-0.304740	-0.234483	-0.152158	-0.307406	-0.111785
48	-0.240536	-0.151004	0.283746	0.367726	0.138044	0.247735	0.087707
49	0.037830	0.111515	-0.212925	-0.055165	-0.051188	-0.147613	0.203282
50	0.379881	0.331124	0.216407	-0.017322	0.123151	0.117337	0.359875

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	11	12	13	14	15	16	17
	MINPPE	MININ	EZCOMP	JSFNFO	RESPND	CLRPIC	UNNFO
51	-0.083215	C.028214	-0.138736	-0.211856	-0.146981	-0.099369	0.126600
52	-0.444348	0.801538	0.837487	0.445524	0.706032	0.826702	1.031579
53	-0.301730	C.083893	-0.017753	C.064572	-0.137221	-0.053701	0.226059
54	-0.100115	0.232753	-0.338435	0.034144	0.367607	-0.185591	-0.194242
55	0.214500	0.151933	0.169648	-0.000457	0.035063	0.194526	C.397966
56	-0.715947	C.465809	0.117035	C.725276	-0.095341	-0.048480	-0.355060
57	-0.149340	0.006614	-0.000937	0.037310	-0.015350	0.129577	C.055718
58	0.028459	-0.033504	-0.151250	0.047360	-0.121218	-0.182814	0.052760
59	0.119865	0.417266	0.048055	0.060206	0.144533	0.275386	0.284090
60	-0.066814	-0.001356	-0.139738	0.105107	-0.064566	-0.130898	C.078044
61	-0.059448	C.571411	-0.079182	0.991367	0.073782	0.496533	-0.828901
62	-0.307497	-0.154128	-0.255206	-0.458555	0.845388	-0.373327	0.336741
63	-0.290803	-0.045152	-0.141446	-0.335477	-0.288982	-0.505224	C.028058
64	-0.044334	-0.403350	-0.427167	-0.017359	0.046315	0.372147	C.568685
65	0.077931	0.156684	0.326112	0.356903	0.330188	0.147625	C.175755
66	-0.008981	-0.084368	-0.378758	-0.247116	-0.368534	-0.149344	C.056455
67	-0.516071	0.031230	0.805140	-0.613881	-0.635788	-0.509820	0.928382
68	-0.668955	-0.359757	0.727282	0.465167	C.467857	-0.616124	-0.173857
69	-0.275371	-0.006364	-0.065793	-0.360453	-1.539387	-0.216927	C.270936
70	0.719186	0.291526	0.214126	0.604534	-2.333768	0.168201	0.469689
71	0.566302	0.712756	0.751321	0.455548	C.526789	0.694775	C.929835
72	0.370445	C.302455	-0.056885	0.287081	0.014775	0.402221	0.133266
73	0.463112	-0.153553	-1.156487	0.045463	-0.350581	0.484979	-0.123502
74	-0.171238	-0.325604	-0.376471	-0.244694	-0.203559	-0.125524	C.055233
75	0.301731	C.116415	-0.341372	0.565863	-0.272453	-0.080035	C.282202
76	0.494704	0.106424	-0.055656	-2.657782	-0.146124	-0.102757	C.379830
77	-0.341820	C.530354	-0.589254	0.246289	0.331883	0.423818	-0.201841
78	-0.170894	-0.216335	-0.182738	-0.992782	-0.323208	-0.321743	-0.273126
79	0.042140	0.246295	-0.194714	-0.127023	-0.027021	-0.028026	C.136987
80	-0.440554	-0.086541	-0.196034	-0.598404	-0.109329	-0.111608	C.187020
81	-0.431722	-0.335671	-0.443615	-0.336686	-0.363352	-0.134333	-0.362558
82	0.232603	0.331345	0.150385	0.066808	C.141105	0.282142	C.394415
83	0.826797	C.663440	-1.671111	0.557478	0.715257	-1.639215	-1.070382
84	-0.321503	-0.146134	0.891263	0.782188	C.817658	-1.511838	1.028164
85	-0.139302	-0.127523	-0.261541	-0.277332	-0.264276	-0.382080	-0.124210
86	-1.450910	-1.127555	-1.363143	-1.127952	-0.079346	-1.459600	-0.460589
87	0.209341	0.383139	0.787863	0.217113	-0.183361	-0.066466	C.249135
88	0.402314	C.284417	0.303313	-0.825240	0.390791	0.543691	0.346763
89	0.464805	C.504588	0.380107	0.258523	0.358583	0.538244	0.630133
90	0.458389	0.218035	0.821136	0.661307	C.771895	0.305563	C.854156
91	0.071407	C.000774	-0.015957	C.015635	0.107189	-0.054465	-0.113407
92	0.075283	-0.020153	0.127582	0.064717	0.031159	0.322364	0.337637
93	-0.105665	-0.285015	-0.090773	-0.064554	-0.128925	-0.289524	-0.135491
94	0.001239	-0.042009	-0.005940	0.135723	-0.031475	0.117317	C.168866
95	0.097629	0.272609	0.072815	0.146478	C.033367	0.174546	C.149061
96	0.011722	-0.216081	-0.159671	-0.136161	0.109708	-0.112909	-0.103921
97	0.143730	C.073611	0.210354	-0.671458	-0.586746	-1.549113	-1.277277
98	-0.425618	-0.335901	-0.335901	-0.425674	-0.330268	-0.290463	-0.311635
99	-0.078831	0.061574	-0.014453	-0.057353	-0.040605	-0.096712	0.071251
100	0.191240	0.2594537	0.267637	0.187389	0.268815	0.218928	-0.357826

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	APNFO	ACCNFC	SUPCFC	SATPRF	ORDNFO	MESLEN	QUALTY	AMTNVZ	SPKCPA	PPPCON
101	-0.027895	-0.204538	-0.023716	0.146868	-0.134377	-0.227835	-0.111955			
102	-0.104301	0.090567	0.077194	0.172507	0.340865	0.084596	-0.133082			
103	-0.060670	-0.154628	-0.129926	0.115112	-0.126110	0.160187	0.175565			
104	-0.161508	-0.255121	-0.026309	-0.087121	-0.025614	0.121238	0.019486			
105	-0.065411	-0.363557	-0.259245	-0.115076	-0.051104	-0.144517	0.334778			
106	0.431344	0.358027	0.574380	0.174738	0.256229	0.019840	0.332004			
107	0.593456	0.763153	1.640561	0.161184	0.080731	0.016692	0.414755			
108	-0.385207	-0.494772	0.871824	0.104502	-0.254874	0.415889	-0.182024			
109	-0.462177	0.112612	-0.508314	-0.166838	-0.456180	-0.406051	-0.687520			
110	0.048582	-0.014054	0.138358	0.161123	0.177244	0.028305	-0.126952			
111	-0.469193	-0.142835	0.158538	0.117427	-0.184246	-0.455375	-0.328012			
112	0.416754	0.307289	0.308610	0.113282	0.353807	0.461031	0.140495			
113	0.472164	0.375666	0.132776	0.145344	0.158389	0.271969	0.155837			
114	-0.037001	-0.345653	-0.351773	-0.055674	0.236176	0.354727	-0.180572			
115	-0.024609	0.234518	0.073848	0.105648	0.114576	0.160238	0.698480			
116	0.068058	0.102264	-0.245285	-0.183141	0.022181	-0.127650	-0.143828			
117	-0.779326	-0.422223	-0.157287	-0.175882	-0.768874	-0.159766	-0.441000			
118	0.044138	-0.065790	-0.055683	0.117512	-0.052704	-0.089336	0.361034			
119	-0.323250	-0.121112	-0.239465	-0.493338	0.355475	-0.366016	0.026768			
120	0.307895	0.228499	0.274187	-0.058558	0.033126	0.024558	0.332788			
121	0.155015	-0.159149	-0.449395	0.066641	0.162077	-0.282347	0.491177			
122	-0.253845	-0.255671	-0.189378	-0.201192	-0.135790	-0.511133	-0.378885			
123	-0.282733	-0.215102	-0.535103	-0.382111	-0.317220	-0.582511	-0.582511			
124	-0.516269	-0.388067	-0.477788	-0.520211	-0.557054	-0.486448	-0.391517			
125	0.084611	-0.356668	-0.060404	0.158529	-0.114328	0.414904	-0.673805			
126	0.044394	0.134268	0.092667	0.159512	0.102441	0.054647	-0.159534			
127	0.067476	0.254055	-0.365876	0.077332	0.657872	0.144432	0.490585			
128	0.461060	0.604498	-0.953768	0.037048	0.356343	0.543628	-0.106198			
129	0.275691	0.243657	0.292729	0.572778	0.540241	-0.847902	0.507532			
130	-0.207681	0.024345	0.081445	0.158188	-0.020155	-0.105143	0.130744			
131	0.035083	0.143243	-0.111118	0.046022	0.135337	0.143151	-0.226398			
132	0.105321	0.096606	0.157368	0.159149	0.043680	0.107976	0.132710			
133	0.283420	0.353772	0.157368	0.158462	0.323162	0.393856	0.153612			
134	-0.013022	-0.017533	0.0371074	-0.332570	0.038583	0.112158	-0.685904			
135	0.278590	-0.091405	-0.202923	-0.358905	-0.301442	-0.283419	0.400511			
136	0.716426	0.800014	0.955158	0.537481	0.669501	0.748656	1.006152			
137	-0.146769	-0.110574	0.278753	0.231229	0.118709	0.406940	0.284825			
138	-0.047581	0.121652	0.022514	0.030310	-0.024374	-0.126526	0.211342			
139	0.124046	0.207424	0.272872	0.038825	0.118639	0.159071	0.093534			
140	-0.008873	-0.196221	0.171409	-0.043393	0.047516	-0.021870	0.108594			
141	-0.274738	0.266150	0.272484	0.447212	0.551673	0.605561	-0.244580			

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	APNFO	ACCNFC	SUPCFC	SATPRF	ORDNFO	MESLEN	QUALTY	AMTNVZ	SPKCPA	PPPCON
1	-0.304981	0.145520	1.046812	1.004731	0.455844	1.125632	1.521884	1.552798	0.861922	-0.242296
2	0.710709	-0.094650	-4.555724	-4.118178	-3.722467	-1.344293	-1.839955	-3.943439	-4.048665	-4.084898
3	-1.278977	-0.776142	-0.135236	0.645932	0.993593	0.215581	1.631308	1.587212	-0.321948	-0.710932
4	-1.122457	1.333644	0.375713	1.271163	0.555555	1.402195	1.722771	0.869410	0.728786	0.567317
5	-2.237290	-1.755640	-2.317284	-1.871589	-1.556070	-1.485657	-1.356274	-1.465244	-1.583357	-1.640802
6	-1.258548	-1.252823	0.317284	-1.472596	-3.937477	-3.741245	-2.204887	-2.434184	-0.709480	-1.646208
7	0.728496	0.556786	0.161285	0.668754	0.851127	0.883751	1.242962	1.181645	1.209736	0.892633
8	0.463975	0.30561	0.571493	0.465747	-0.447482	0.675484	-0.062535	-0.186232	-0.189969	-0.436267
9	-1.728308	-2.151747	0.381464	-0.446581	-3.218152	-2.483665	-1.783672	-1.896313	-2.917163	-1.551939



	1	2	3	4	5	6	7	8	9	10
	AMTNEO	ACCNEO	SUPDEIC	SATBPF	ORUNFO	MESLEN	QUALVY	AMTNYZ	SPKQPA	PMPCON
10	0.741595	-0.250260	0.835377	0.745928	-0.260383	-1.202766	-1.304225	-1.407442	-0.146852	-1.475705
11	-0.871262	-0.511555	-0.695529	-0.680562	-0.413477	-0.421766	-0.390689	-0.232359	-0.243150	-0.347600
12	-1.660816	1.551176	2.416280	3.064134	2.862943	2.318500	-0.658227	1.578411	1.826684	2.371340
13	1.164491	1.312382	0.645906	0.531667	0.816721	0.836455	1.927661	0.596946	1.958008	1.530037
14	1.318239	1.651778	1.445624	0.745032	0.316133	1.699903	1.473618	1.562903	0.894478	-0.230115
15	-0.331026	-0.031778	1.834560	-0.450565	0.276282	1.368187	2.037182	0.485567	0.313465	0.192727
16	-0.678810	-0.450527	0.452414	-0.435585	-0.252201	-0.254453	-0.151877	-0.132871	-0.232070	-0.260954
17	-0.867419	-0.584326	0.918217	0.713785	0.922723	0.546446	1.105747	1.145573	1.119830	0.969646
18	0.605203	-0.445209	0.779422	-0.552413	0.776804	0.718572	0.199464	-0.153055	-0.278622	-0.359137
19	1.276273	1.135543	1.217300	0.427285	1.030230	1.212887	0.311188	0.028860	1.102343	0.063610
20	-0.920346	-0.562513	0.855203	0.427285	0.846143	-0.854432	-0.066667	0.595365	0.596369	0.799721
21	-0.920880	-0.511565	0.346431	-0.593069	-0.187592	-0.602562	2.447148	0.267522	0.592652	-0.088360
22	-0.056164	1.024276	0.352727	0.712492	0.853389	0.996383	0.568685	0.369338	0.590236	0.491848
23	-0.268705	-0.433325	0.942264	-0.411550	1.281543	1.605755	1.256685	1.104414	1.500220	-0.081848
24	-1.780298	-0.433325	3.728593	-2.240687	-2.356031	-2.586022	-2.536556	-1.004414	0.590236	1.578437
25	0.942264	0.647276	0.792070	1.710333	0.432266	0.359928	0.662133	0.004630	0.590236	0.799749
26	0.423772	-1.155004	1.361752	1.388111	-1.710316	-1.407102	2.641096	-2.817412	-2.903173	0.477102
27	-0.082575	-2.831177	3.007802	-1.507380	1.221800	1.798438	0.568267	0.704926	0.128919	-0.654694
28	0.868931	-0.295412	0.557123	1.276744	-1.211345	-0.381208	1.305703	0.852923	-0.416366	-1.178992
29	-0.122083	-0.166181	0.521523	-0.051535	-0.312141	-1.611266	-1.305703	-0.852923	-0.416366	0.554714
30	-0.712867	-0.587074	0.951649	-0.565335	1.412380	0.658756	-0.142807	0.751789	0.155981	0.505035
31	1.410676	-0.221578	0.770765	0.541716	0.519349	1.499094	1.119416	0.157250	-0.203328	1.185233
32	0.728922	0.942114	0.770765	0.541716	0.519349	1.499094	1.119416	0.157250	-0.203328	1.185233
33	0.454081	0.234264	2.064129	1.255828	0.216309	0.549064	0.952045	0.523207	1.462404	0.502753
34	-0.037742	-0.611283	1.033550	0.712734	0.117753	0.944862	0.911576	0.285323	2.355950	2.737196
35	-0.423634	0.444009	0.930440	-0.113676	0.665297	0.154348	1.254957	-1.381813	1.019200	0.689112
36	0.275054	1.321218	0.930440	0.529270	0.318474	-1.439919	1.943171	-0.282888	1.307549	0.561666
37	0.678784	0.551624	0.735813	0.665542	-0.438309	-1.439919	1.943171	-0.282888	0.886058	0.680097
38	-0.177797	-1.456324	0.168727	-1.864012	1.198333	0.800289	0.663524	1.252555	0.886058	2.558963
39	1.317709	0.263555	0.644380	-0.641377	0.519349	0.549064	0.952045	0.523207	1.462404	0.502753
40	-0.760545	-2.305157	-0.545522	-0.312141	1.412380	0.658756	-0.142807	0.751789	0.155981	0.505035
41	0.357914	0.168727	-0.545522	-0.312141	1.412380	0.658756	-0.142807	0.751789	0.155981	0.505035
42	0.517643	1.402743	-0.462710	0.558214	1.544776	0.202033	-2.843821	-0.659034	-0.457178	-0.468072
43	0.488934	-1.810353	-1.151557	-0.350564	-1.344941	1.165810	-2.944358	-1.286056	-0.457178	-0.468072
44	-0.801914	-0.657540	-0.403835	-1.121637	-0.462530	-1.713872	-1.082307	-1.117057	-0.514794	-1.652189
45	-0.272578	0.590228	0.140751	-0.064458	-0.414255	-1.003852	-0.348743	-0.827768	0.610432	0.010463
46	-1.267311	0.874462	-1.111564	-2.430828	-0.430955	-1.202067	-1.535882	-1.068452	-1.524224	-1.600589
47	-0.234659	1.455010	-1.343409	0.403455	-0.717720	0.641088	0.231476	0.554294	0.997692	1.158641
48	0.946365	0.723468	-0.713150	0.473455	-0.733588	0.513388	0.130475	1.276281	1.431945	-0.484742
49	1.688756	1.470051	1.295033	0.238571	0.533746	1.362966	0.942656	1.237564	1.685727	1.075490
50										
51	0.651662	-0.150143	-0.308897	-0.454525	-1.865371	0.071857	0.665985	-0.176659	0.773941	-0.244300
52	0.806165	0.532252	0.819134	0.551519	0.702489	-0.287941	-0.257207	-0.276919	1.058830	0.861056
53	0.501491	-1.153555	-0.816949	0.163011	0.122318	1.381297	1.402568	0.651511	1.125994	-0.058243
54	-0.667344	0.082050	-0.287073	-0.064503	0.231306	0.178112	0.926474	-1.611933	-0.284721	-0.035223
55	-0.652253	1.175557	0.326357	0.042355	-0.135628	-0.088601	0.384967	0.651521	0.657353	0.482170
56	-0.573724	-0.241525	-0.511259	-0.182622	-0.894751	-0.389256	-0.763000	-0.615080	-0.652174	0.474813
57	-0.105255	-0.255577	1.546625	0.646509	0.323733	0.393754	0.582854	0.422257	1.307508	0.395368
58	-0.281737	1.306610	-0.297785	0.513486	-0.556538	0.455286	0.124902	0.727520	-1.122815	-0.438495
59	0.603184	-1.522141	0.120862	-1.54011	1.012307	1.101535	-0.100402	0.418420	-0.475868	0.870634
60	-0.778448	-0.751109	-0.341445	-0.570529	-0.152893	0.376651	0.176277	0.192235	0.449335	-1.372516
61	0.677644	-0.111714	0.464611	0.194243	1.350365	0.768533	-0.165883	0.200179	-0.102643	0.724023

RESIDUALS AND T-STATISTICS - FULL CELLS X VARIABLES



RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES												
	1	2	3	4	5	6	7	8	9	10		
	AMTNEF	ACCNEF	SUPDEC	SATREF	CRDNEF	MESLEN	QUALVY	AMTNYZ	SPKGRA	PPCON		
62	-0.466278	-0.307573	-0.412606	0.657274	0.821752	0.877565	1.098635	1.062787	-0.165765	-0.207499		
63	-0.760411	-0.586707	-1.381264	-0.755699	-1.526695	-1.060450	-1.140395	-0.758654	-0.161173	-0.662224		
64	-0.117756	-0.356664	1.450661	-0.757666	-1.508368	-2.777390	-0.330434	-0.815330	-0.264125	-1.252887		
65	1.297253	0.545549	0.479985	0.035573	0.930749	-0.545384	1.511173	1.295837	-0.230868	-0.686847		
66	0.020775	-0.853665	-0.543464	-1.258242	-0.224683	-0.739508	-0.216992	-0.019822	-0.723065	-0.883300		
67	0.522146	-0.409339	0.694765	-0.620494	0.846531	-0.243406	-0.216992	0.167726	1.115724	-0.459117		
68	0.456073	-0.401336	-0.734532	-0.733261	-0.43262	-0.337929	0.994568	1.043234	-0.235464	0.670752		
69	0.274859	-0.005626	-0.382127	-0.502388	0.018231	-0.002254	0.440760	1.363858	-0.459223	-0.062419		
70	0.767085	-0.246736	-0.811275	0.053531	0.356861	-0.350678	-0.347768	-0.260771	-0.340796	1.218242		
71	0.668658	1.221088	-0.086554	0.146584	1.051276	0.152678	1.371763	1.464465	1.445862	1.078087		
72	-0.274514	1.121157	0.737686	-0.051506	0.763437	0.564400	0.924490	0.270823	0.353373	-0.170016		
73	-0.124674	0.645139	1.007364	-0.711906	0.233437	0.693554	0.831416	-0.541131	-1.149204	-0.615572		
74	-0.747348	-0.805207	-0.900893	-0.543045	-0.751276	-0.295956	-0.028401	-0.182102	0.522456	-0.230238		
75	0.962428	1.531024	0.555527	-0.284335	-0.670381	0.156328	0.384460	-0.385566	-1.109094	-1.244812		
76	0.412090	0.525766	-0.145462	-0.271085	0.207737	0.089645	0.563235	-0.803629	-0.500325	-1.446414		
77	0.278760	0.651639	0.464593	-0.515462	0.012759	-0.679915	-0.617577	-1.008102	0.869038	-0.723491		
78	-0.049386	-0.501054	1.216418	-0.387700	0.521289	-0.237418	-0.644215	-0.006828	-0.069779	-0.445503		
79	-0.446350	-1.076015	-0.895777	-1.050580	0.061406	-2.352551	-2.280722	1.627112	-2.049034	-0.706014		
80	-1.840346	-1.085549	-0.895777	-0.824015	-0.417568	-2.394612	0.164901	0.354941	-0.781199	-0.691987		
81	-2.000943	-0.206526	-1.612906	-0.014455	0.308142	-0.040515	-0.323887	0.287770	0.470762	0.178812		
82	-0.693187	0.351465	-0.158796	-0.014455	0.308142	-0.040515	-0.323887	0.287770	0.470762	0.178812		
83	0.692687	-0.444751	0.781070	0.571327	0.785391	-1.322127	-0.231413	-0.242884	-0.260202	-0.410473		
84	-1.817473	-0.216168	0.880487	0.681585	-2.145671	-1.208579	-0.232967	-0.232950	-0.213343	0.822766		
85	-1.582492	-1.581033	-0.719579	-0.854455	-2.145671	-1.208579	-0.232967	-0.232950	-0.213343	0.822766		
86	0.725224	-1.721884	-2.631109	-1.854787	-1.937392	-1.343089	-2.076076	-1.571109	-2.009485	-1.439254		
87	1.065598	0.126157	-0.140576	1.128463	0.754699	0.747953	1.572094	1.033671	0.257384	0.701677		
88	0.705295	1.375175	1.223680	0.357776	1.328618	1.177255	1.052925	-0.044436	0.547735	0.197526		
89	-0.917767	0.556561	0.536779	0.353362	0.567746	0.728937	1.489062	1.579339	0.619304	1.434649		
90	0.841284	-0.165644	0.196172	0.815826	-0.162727	1.209006	0.527955	0.543193	0.486986	1.292921		
91	-0.524778	-0.296752	-0.185526	-0.322779	-0.320353	-1.550383	1.568208	-1.673207	-0.893279	0.207949		
92	-1.274040	-0.042037	-1.038520	-0.032226	1.063640	0.802621	0.912416	0.506687	0.725541	0.148810		
93	1.105481	0.459501	1.075873	1.245583	1.233422	-0.527096	0.512722	0.627234	0.238556	0.083429		
94	2.034633	1.025431	0.433561	1.152708	0.232254	1.739538	0.306325	1.123414	1.405618	0.132013		
95	0.670204	0.755240	-1.043736	-0.011916	-2.224004	-1.402598	0.167105	0.502865	-0.302779	-0.889775		
96	-1.639517	-2.737354	-0.4117642	-0.655754	-1.245991	0.181831	-0.425165	0.10205	-1.592128	-0.781990		
97	-2.343730	-1.380114	-1.260424	-1.688560	-0.423725	0.295087	-1.182342	-1.528364	-0.885622	-1.056844		
98	0.252652	-0.233446	-1.437720	-2.005548	-0.373354	-1.054917	-1.066187	0.201353	-0.972436	-0.460892		
99	0.719615	0.254466	1.723832	0.366862	1.276160	1.265657	-0.199329	-0.064618	1.006569	1.158439		
100												
101	-0.030594	-0.116601	-0.548148	0.623742	0.870314	0.560636	0.889580	1.045631	0.898420	-0.260898		
102	0.728442	0.631514	0.948055	0.859526	-0.182973	1.608971	2.373087	2.037947	0.932334	-2.209272		
103	0.281864	0.602157	1.888030	0.056446	0.492582	0.656906	0.154863	-0.010270	0.122020	-1.159593		
104	-2.000843	-1.196165	0.108671	-1.163300	0.743147	-0.355218	-0.672526	-0.695103	0.491368	-0.615879		
105	-0.771085	0.158107	-1.444287	-1.076638	-0.126141	-2.323890	-1.064154	-0.613820	-1.112024	0.542820		
106	1.074491	1.563373	-0.430262	0.560380	1.181338	0.754258	1.471737	0.800416	-0.213333	1.036100		
107	-4.148516	-2.711443	-3.779337	-3.623440	-2.151643	-2.815704	-0.561795	-0.357000	-0.321806	0.192191		
108	0.183729	0.656626	0.461066	0.226804	0.614623	0.521410	0.815627	0.923424	0.976600	0.648655		
109	0.084057	-0.127568	-1.554431	0.073484	-2.122656	-2.010221	-2.799256	-0.704596	-3.196952	0.076691		
110	-0.099333	0.717870	-0.652957	-0.358492	-0.383357	-1.280458	-0.216047	1.303041	-0.257332	0.432922		
111	-0.101628	-0.092637	-2.845685	-1.624371	-1.163665	-0.573711	0.501273	0.582082	1.046248	0.573380		
112	0.400489	0.700013	1.060188	0.572573	0.727089	0.4485317	0.31715	0.534296	0.551766	-0.249721		
113	0.796320	0.524870	0.585271	0.795518	0.250406	0.714661	0.951854	0.555556	0.646572	0.874135		

114	0.267075	-0.561237	0.187820	0.345875	-0.063388	0.254952	-1.679147	-0.253140	0.457807	-0.566877
115	0.252210	1.350246	-0.005708	0.713247	0.765388	0.934723	0.075131	0.568601	0.679564	1.786269
116	-0.428603	0.505404	-0.312512	-0.374024	0.177263	-3.199782	0.791559	1.517523	1.081168	-0.563151
117	0.757050	1.185888	1.138086	0.040349	0.176362	-0.954991	-0.015880	-2.940151	-1.805303	-1.031500
118	-0.571662	-0.158754	0.674098	-0.245549	-0.575327	-0.966610	-0.015717	-1.721664	-1.292733	-1.004728
119	-0.600914	-0.216511	-0.532743	-0.673691	-0.330243	-0.210779	0.255507	-0.286970	-0.173801	-0.317484
120	-0.085321	0.457110	-0.297741	-0.291573	-0.174110	0.839439	1.173665	1.402824	0.164359	0.831865
121	-0.179525	0.224510	0.421072	0.567419	0.526315	0.886411	0.255171	1.208406	0.163717	0.579855
122	0.827663	1.841244	1.268732	0.782328	0.816059	-0.424563	-0.224551	-0.776431	-1.251124	-0.385723
123	-0.273481	-1.275584	0.345328	-0.838762	-0.805951	-0.822211	0.186416	-0.315052	-0.217069	-1.132786
124	-1.360361	-1.405538	1.176205	-1.582431	-1.416945	-2.552988	-3.226305	-3.931491	-2.641873	-3.048892
125	-1.349809	-2.144211	-2.741291	-2.304702	-1.565412	-1.586286	1.603369	1.435818	-2.706499	-0.335689
126	0.176756	-1.645357	0.653866	0.640246	-0.139263	-0.096473	0.304370	0.702556	-1.236252	0.229352
127	0.402682	1.473548	0.259118	0.890358	0.366798	-0.116339	-0.531247	0.391606	-1.428189	-0.595545
128	0.853798	-2.233157	0.292195	0.890358	0.366798	-0.116339	-0.531247	0.391606	-1.428189	-0.595545
129	0.562795	-0.215273	-2.691547	0.761172	-0.127327	-0.280991	-0.528444	0.370878	-0.519287	-0.476208
130	0.631640	-1.651344	0.541168	0.621821	1.125572	1.339325	-0.528444	0.370878	-0.519287	-0.476208
131	0.218146	-0.451341	-0.503432	0.786536	0.246488	0.262302	-0.593567	0.343510	0.428153	0.683280
132	0.239850	0.745667	-0.281126	1.300614	0.323363	0.263215	-0.601175	0.240712	-1.142650	-0.564762
133	-0.251526	-0.453531	0.824387	0.436688	0.261338	1.216856	1.058223	0.404150	0.948540	1.582388
134	1.583598	1.377151	0.358633	0.642866	0.433450	0.993381	-0.760070	1.155586	0.955311	1.099176
135	-0.026032	0.464752	0.316165	-0.647003	0.433450	0.993381	-0.760070	1.155586	0.955311	1.099176
136	0.310247	-1.132115	-0.547271	-0.547271	-0.547271	-0.547271	-0.547271	-0.547271	-0.547271	-0.547271
137	0.632030	0.661589	0.756475	0.431681	0.704573	0.723303	0.896932	0.515088	0.682424	0.500170
138	1.505772	-0.142256	0.473450	1.544651	0.533377	1.578900	0.700826	0.572449	0.740134	0.866377
139	-0.558035	1.078657	1.237299	-0.187745	0.242393	0.721609	-0.421728	-0.276038	0.650753	-1.270440
140	0.188594	-0.524540	0.112405	0.240516	0.966546	-0.095627	0.582988	1.025552	0.805779	1.011170
141	-0.335093	0.325653	-0.328776	0.123167	0.652140	0.537001	0.828904	0.151006	0.994923	0.918719
142	0.803464	0.462626	0.271847	0.542021	0.222370	-0.931431	-1.344614	-0.546045	-1.158391	-0.306125

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

1	1.656604	1.455827	1.256185	0.353122	0.514556	1.195722	0.329502			
2	-4.113509	-3.470566	-4.038447	-4.268284	-4.130313	-4.279952	-3.236852			
3	-0.962685	-0.555768	0.082451	-0.296648	0.603153	0.801113	0.488247			
4	1.277682	1.357327	0.483177	1.076023	1.171463	3.448216	-1.453857			
5	-1.275987	-1.510549	-1.775082	-2.016429	-1.922541	-1.925772	-0.115938			
6	-1.890388	-0.743827	-1.666224	-1.605552	-1.983617	-1.480037	-0.596458			
7	-3.507423	-0.231627	0.913777	0.634315	0.614933	0.762100	0.529256			
8	0.451265	0.662620	-0.501076	0.391667	0.463918	0.527353	0.852660			
9	-2.168582	-0.218351	-2.064623	0.210238	-0.486588	-0.534731	0.750922			
10	-0.732264	-0.238057	-1.535170	0.645212	0.734161	0.607459	-0.053655			
11	-0.684546	-0.425181	-0.477077	-0.809400	-0.682041	-0.697150	-0.123882			
12	2.175509	0.067124	2.744305	2.040112	1.581453	2.375964	1.269266			
13	0.527593	0.777589	1.386406	1.058667	1.096263	0.847102	0.673302			
14	-0.464246	0.513055	-0.226465	0.632183	1.661217	0.847102	0.673302			
15	0.510554	0.276749	1.133147	1.450232	0.601217	0.847102	0.673302			
16	-0.470468	0.280557	-0.418038	0.570186	-0.594923	-0.470230	-0.041314			
17	0.792683	0.665121	0.914575	0.774570	0.732989	0.927403	0.319066			
18	0.583778	0.681566	0.738010	0.574484	0.522262	0.693046	-0.102177			
19	0.042759	0.085564	1.177328	1.603427	1.180539	1.325756	0.162464			
20	-0.230352	0.654415	-0.467638	0.214257	1.346302	0.748112	0.162464			
21	-0.624747	-0.013501	-0.862712	-0.715512	-2.833455	-2.966367	-1.208276			
22	1.257147	0.276484	0.211760	0.618375	0.623252	0.734149	0.428738			
23	0.371566	0.587159	0.558107	0.324127	0.761319	0.557877	-0.112745			

	11	12	13	14	15	16	17
	MINPE	MININ	EZCOMP	USFAEC	RESFAC	CLIPIC	UNNFO
24	-0.158001	0.363606	-0.234959	-0.382255	0.557363	-0.143723	1.040081
25	-0.008369	0.351566	0.869011	1.436675	-0.616597	0.574635	0.347427
26	-1.008945	-0.532766	-0.581280	-1.158455	-0.585767	-0.595938	-0.288351
27	0.897932	0.504301	-0.272302	-1.953013	-5.098078	0.926420	-1.249401
28	0.519365	-0.071136	0.733417	1.952527	1.253303	0.679994	1.241415
29	0.193844	0.908604	0.4638074	0.794669	-0.552659	-0.177696	1.012577
30	0.221545	-0.444566	0.384426	0.464577	0.433603	0.232252	0.001125
31	0.097795	0.386635	-0.220405	-0.185056	-0.211295	-0.355022	1.011641
32	-1.502290	-1.542542	-0.250484	0.382523	0.521071	1.542238	0.505595
33	0.872817	0.654584	-0.353276	0.633557	0.744385	0.855187	-1.011345
34	1.049490	0.136257	-0.230356	1.293031	0.345761	0.772189	-0.620220
35	-0.753228	-0.665511	0.132406	-0.446943	-1.122440	-0.702789	-0.316548
36	1.045238	0.166199	2.074772	1.352150	0.585332	1.363131	0.998008
37	0.314084	0.455150	-0.776721	0.791695	0.654304	1.280261	-0.355161
38	0.751314	0.771156	0.830139	0.535206	0.635790	0.794179	1.086731
39	-1.999971	-0.546042	0.811121	0.545462	-1.210528	-0.176408	-0.901169
40	1.158244	0.881354	1.420253	0.045770	0.471769	-0.111192	0.138405
41	-0.811057	0.255587	0.380515	-0.863646	-0.254764	-0.812205	-0.244855
42	0.496260	0.276160	-0.954619	0.525538	0.623339	-0.081561	-0.044565
43	-0.582374	-0.166864	0.319500	-0.872605	0.133549	0.744970	-0.709015
44	-1.087597	-1.868505	-0.944412	-0.500388	-0.284116	-1.831317	-1.268691
45	0.783181	1.248406	-2.225716	-0.720027	-0.567705	-1.039052	-0.523932
46	0.382522	0.651212	-0.141735	-0.059519	0.023647	-0.241677	0.698771
47	-1.863426	-1.733131	-1.824874	-1.404154	-0.911165	-1.843838	-0.705331
48	-1.028179	-0.645203	1.212375	1.571200	0.585329	1.485783	0.374748
49	0.026622	0.405135	0.723973	-0.187569	-0.330453	-0.501904	0.691185
50	1.502323	1.323433	0.864937	-0.666737	0.492370	0.468973	1.553755

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	11	12	13	14	15	16	17
	MINPE	MININ	EZCOMP	USFAEC	RESFAC	CLIPIC	UNNFO
51	-0.119088	0.046463	-0.198543	-0.303241	-0.210343	-0.141777	0.181175
52	-0.447321	0.805001	0.843051	0.648554	0.711361	0.832234	1.038482
53	1.479982	0.411455	-0.087079	0.316725	-0.673065	-0.263403	1.598318
54	-0.372804	0.868662	-0.143122	0.127142	0.251752	-0.691092	-0.723306
55	0.485553	0.343523	0.394024	-0.010334	0.311461	-0.443338	0.903855
56	-1.445638	-0.540599	0.236317	-1.466474	-0.193522	-0.057891	-0.716935
57	1.123260	0.500200	-0.007061	-0.281218	-0.115697	0.979676	-0.419955
58	0.170792	-0.202758	-0.934531	0.282230	-0.071870	-1.093296	0.315527
59	1.087828	1.415162	0.163566	-0.204753	0.491534	0.536547	0.566148
60	-0.442771	0.000000	-0.924655	-0.694823	-0.443307	-0.866164	0.503185
61	-0.305518	0.817486	-0.117282	1.417864	0.677314	0.710362	-1.328927
62	-0.168764	-0.285270	-0.256717	-0.461270	0.954417	-0.372218	0.036958
63	-0.195131	-1.775478	-1.880133	-1.570256	-1.677196	-2.932224	0.163075
64	0.252437	0.505787	1.142634	0.076405	0.204489	1.637567	-0.503005
65	-0.046552	-0.292493	-1.274541	-1.152555	0.037325	-0.479350	-0.569544
66	-0.517553	0.536702	0.811432	-0.619620	-0.607504	-0.511264	-0.263325
67	-0.671723	-0.560000	0.725738	0.464805	-0.464437	-0.618234	-0.174484
68	-0.391860	-0.005056	-0.093625	-0.512933	-2.150156	-0.308653	0.385545
69	1.023247	0.415348	0.307502	0.866649	-3.320452	0.239314	0.669267
70	0.806525	1.015110	1.070034	0.708331	0.752255	0.949501	1.324274
71	0.748851	0.611452	-0.114692	0.560332	0.302273	0.913088	0.269436
72	0.935604	-0.310210	-2.341186	0.051876	0.789326	0.980095	-1.462934
73	-1.388136	-0.736023	-0.853330	-0.554636	-0.461358	0.284519	-0.125647
74	0.527014	0.203333	-0.596752	1.047739	0.475876	-0.139751	0.492902

	11	12	13	14	15	16	17
	MINPRE	MININ	EZCCMP	USENED	RESPND	CLPPIC	UNNFO
76	0.703590	0.155769	0.141735	-2.526438	-0.237824	-0.146145	0.540210
77	0.342808	0.531887	-0.600985	0.250009	0.332842	0.425042	-0.202224
78	-0.686459	-0.746601	-0.688631	-3.523354	-1.157057	-1.151857	-0.969316
79	0.136434	0.836556	-0.628661	-0.411227	-0.087465	-0.090719	0.443419
80	-1.504254	-0.274348	-0.600637	-1.83473	-0.536816	-0.341941	0.573016
81	-1.534536	-1.194221	-1.566162	-1.156738	-1.230452	-0.474747	-0.222360
82	0.408841	0.582358	0.264328	0.152581	0.248018	0.495915	-0.076084
83	0.811186	0.866023	-1.679981	-0.560437	0.719354	-1.647916	-1.076084
84	-0.322264	-0.146535	0.866146	0.787478	0.822138	-1.529173	1.333796
85	-0.495623	-0.453713	-0.930537	-0.566720	-0.940268	-1.359402	-0.441925
86	-2.532843	-1.556635	-2.379628	-1.560359	-1.835252	-2.548012	-0.804046
87	0.365283	0.666542	1.374748	0.375890	-0.315347	-0.115976	0.434717
88	0.812330	0.578318	0.612434	-1.74357	0.785264	1.057751	0.700164
89	0.663766	0.126578	0.542813	0.426878	0.569198	0.768640	0.899862
90	1.227218	0.454687	1.173557	0.545455	1.106839	0.435426	0.792266
91	0.669616	0.054144	-0.150013	0.149434	1.007124	-0.510745	-1.063478
92	0.748725	-0.261812	1.272752	0.842430	0.011326	0.319871	0.374289
93	-0.578915	-1.557110	-0.455918	-0.362603	-0.754351	-1.581744	-0.740224
94	0.013549	-0.467557	-0.108660	1.527360	-0.344364	1.282429	1.845923
95	0.379428	1.272742	0.334933	0.644538	0.155720	0.832563	0.685377
96	0.141426	-0.937526	-0.711848	-0.65101	0.455101	-0.533374	-0.443304
97	0.329429	0.168716	0.482130	-1.538578	-1.344318	-0.550558	-0.927511
98	-1.406842	-1.445584	-1.12657	-1.423652	-0.034337	-1.293437	-1.332316
99	-0.611685	0.477784	-1.12146	-0.445031	-0.315073	-0.750436	0.552865
100	1.387555	2.135543	0.480745	1.355614	1.250438	1.588451	-0.419562

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	11	12	13	14	15	16	17
	MINPRE	MININ	EZCCMP	USENED	RESPND	CLPPIC	UNNFO
101	0.118857	-0.871382	-0.101036	0.156668	-0.514609	-0.970633	-0.476954
102	-0.835249	0.646351	0.618178	0.643921	0.327413	0.676650	-1.041545
103	-0.484355	-0.887554	-0.746103	0.056779	-0.724152	0.915881	1.038185
104	-1.343283	-1.146657	-0.100669	-0.552342	-0.072725	0.443907	0.076483
105	-0.145938	-0.833816	-0.593468	-0.555587	-0.117523	-1.705492	0.079667
106	1.724821	1.431646	2.136833	1.484468	1.124986	-0.379353	0.132774
107	0.843095	1.093553	-2.356081	-0.540308	-0.114651	0.024713	0.589225
108	0.386137	-0.455567	0.633150	0.305237	0.295387	0.416893	-0.182464
109	-0.934688	0.227742	-1.027554	-0.37467	-1.042455	-0.821182	-1.390413
110	0.302253	-0.643054	0.424484	0.189041	0.543502	0.086756	-0.389285
111	-1.600214	-1.467319	0.546705	0.401173	-0.628383	-1.555134	-1.118705
112	0.842855	0.621402	0.078078	0.026859	0.715471	0.932302	0.284110
113	0.555516	0.760274	0.268699	0.295346	0.320532	0.550384	0.315307
114	-0.074802	-0.701263	-0.711145	-1.534415	0.477454	0.717117	-0.365044
115	-0.055085	0.507672	0.285333	0.423657	0.442958	0.619126	2.658772
116	-1.576368	0.471234	-0.230067	-0.877714	1.033943	-0.596064	-0.671356
117	-0.517468	-0.854045	-1.511785	-1.56431	-1.555226	-1.536834	-0.892025
118	-1.102621	-0.265212	-0.369864	0.065174	-0.234073	-0.344613	0.158287
119	-0.325262	0.121666	-0.240555	0.456463	-0.337874	-0.368294	0.026960
120	0.867898	0.458533	1.790682	0.215060	0.055552	0.070323	0.959672
121	0.137809	0.135830	1.516840	0.222285	-0.247319	-0.267319	1.500617
122	-0.313659	-0.222655	-0.235136	0.522263	0.574233	1.115277	-0.766715
123	-0.605050	-0.912274	-0.675203	-0.718002	-0.484141	-0.745536	-0.235130
124	-1.211334	-0.521576	-2.292579	-1.637352	-1.637102	-1.329099	-0.495690
125	-1.466739	-1.503134	-1.856656	-2.014977	-2.157843	-0.271341	-1.516495
126	-0.267878	-0.686222	-0.150180	0.395140	-0.284251	1.031562	-1.675265
127	-0.177760	0.542274	0.371054	0.636309	0.410190	0.219815	-0.639802



128	0.095886	0.361023	-0.519025	0.105892	0.934863	0.205243	C.897142
129	0.605195	1.555171	-1.664787	0.064701	-0.822318	0.449393	-0.185464
130	0.674718	0.552218	0.663325	1.247011	1.224189	-1.521357	-1.150373
131	-0.559110	0.070524	0.219263	0.425668	-0.054259	0.283061	C.351965
132	0.235213	0.540265	-0.941979	0.308559	0.907369	0.959763	-0.174973
133	0.743680	0.635781	1.450124	1.406212	0.305844	0.762428	C.937081
134	1.050953	1.311074	0.583704	0.685097	1.157634	1.455625	C.569288
135	0.125255	-0.172491	0.643612	-0.313272	0.036400	1.078779	-0.426253
136	-0.398947	-0.130707	-0.290173	-0.277223	-0.431053	-0.405281	C.057925
137	0.720408	C.804460	0.859910	0.600802	0.673524	0.752817	1.011744
138	0.661451	-C.500031	1.258295	1.345654	0.536819	1.840241	1.288017
139	-0.233043	C.590524	0.110270	0.241407	-0.115380	-0.615693	1.035101
140	0.514435	C.860217	0.949165	0.161054	0.492012	0.659692	0.375456
141	-0.057429	-1.255816	0.777023	-0.277719	0.304136	-0.139970	0.695001
142	-0.435682	0.460517	0.409418	0.777567	0.971530	1.068329	-C.830715

D.F.= 2578.

# RESIDUALS ESTIMATED AFTER FITTING MODEL OF RANK 9

## ANALYSIS OF VARIANCE

PAGE 7

## 17 DEPENDENT VARIABLE(S)

1 AMTNEC  
2 ACCNEC  
3 SUPDEC  
4 SATREF  
5 DRUNFO  
6 MESLEN  
7 CUALVY  
8 AMTVZ  
9 SPKGRA  
10 FMPCON  
11 MINPRE  
12 MININ  
13 EZCCMP  
14 USFNFO  
15 RESPND  
16 CLFFIC  
17 UNNF

NUMBER OF ALTERNATE BASIS CROSS= 7

PRINCIPAL COMPONENTS OF CORRELATION MATRIX WILL BE PRINTED

DISCRIMINANT ANALYSIS WILL BE PERFORMED FOR EACH BETWEEN CELL HYPOTHESIS

PRINCIPAL COMPONENTS -- VARIABLES X COMPONENTS (PCs X CCLS)

10

9

8

7

6

5

4

3

2



	11	12	13	14	15	16	17
1 ARTNEC	-0.441386	-0.216647	-0.266477	-0.104557	-0.075989	0.042954	0.126255
2 ARCHFO	-0.687404	-0.760655	-0.722596	0.020428	0.087370	-0.358545	-0.367046
3 SIPOFC	-0.689828	-0.365755	-0.171365	0.065165	0.230136	0.302530	0.031363
4 SATREF	-0.764694	-0.261618	-0.189025	-0.027182	0.300008	-0.374853	-0.213111
5 ORDNFC	-0.779598	0.062214	-0.276150	-0.150427	0.311103	-0.329411	0.112646
6 MESIFN	-0.684088	0.057550	-0.265907	-0.254534	0.242640	0.072987	-0.120088
7 QIALVY	-0.694774	0.490053	-0.031458	-0.147473	0.026748	0.083655	0.003235
8 ARTNYZ	-0.673812	0.505751	0.011591	0.143078	-0.036768	-0.042269	-0.038020
9 SKPCRA	-0.657825	0.525451	0.045811	0.060011	0.021277	-0.089098	0.083716
10 PRCRAN	-0.629141	0.216116	0.240336	0.565690	0.031658	0.077712	0.313606
11 MTNPRF	-0.743658	-0.297509	0.391141	-0.071062	0.061159	-0.046745	-0.127702
12 MTNIN	-0.631679	-0.172142	0.568692	0.032374	0.014899	0.018055	0.018055
13 FZCNDP	-0.756859	0.195525	0.109056	0.234823	-0.228067	0.234823	-0.228067
14 USECND	-0.757569	-0.173366	-0.031922	0.154490	0.121317	0.155871	0.251807
15 RESPND	-0.785358	-0.214372	0.020584	0.154774	0.072015	-0.055847	0.004031
16 CLRPIC	-0.768186	-0.232112	0.046661	0.170257	0.082445	-0.142767	0.007176
17 INNEN	-0.581708	0.181177	-0.060793	-0.110945	0.041310	0.006351	-0.011235
1 ARTNEC	0.003526	0.000478	0.012051	0.012276	0.015515	0.033564	0.007927
2 ARCHFO	-0.018405	0.002154	-0.021806	-0.078744	-0.025216	-0.018783	-0.017955
3 SIPOFC	-0.012575	0.006554	0.003672	0.005569	0.006638	0.002609	0.004135
4 SATREF	0.144273	-0.111273	-0.035612	0.011164	0.036368	0.035762	0.008382
5 ORDNFC	-0.060490	0.035731	-0.036307	-0.033327	0.005544	-0.003402	-0.008386
6 MESIFN	0.016203	0.055514	0.026513	0.026334	0.028969	0.033824	0.009638
7 QIALVY	0.117011	-0.366624	-0.232445	0.005254	0.022303	0.213701	0.178661
8 ARTNYZ	-0.103471	0.320706	0.236138	-0.021238	-0.055242	-0.169113	-0.113962
9 SKPCRA	-0.042138	0.026712	0.000558	-0.018540	0.015106	-0.017363	0.010346
10 PRCRAN	0.042342	-0.016755	0.030351	0.045628	0.051254	0.044813	0.047444
11 MTNPRF	-0.376111	0.004615	-0.272748	-0.349437	0.044387	-0.258189	-0.240692
12 MTNIN	0.257167	-0.050058	0.117382	0.214163	0.207310	0.141621	0.116916
13 FZCNDP	0.024901	0.025289	0.031066	-0.001745	-0.026316	-0.046503	-0.063159
14 USECND	0.018084	-0.018775	-0.002051	0.047405	0.034570	0.005572	0.036023
15 RESPND	0.116142	0.000195	0.128633	0.107618	0.112905	0.059834	0.007762
16 CLRPIC	-0.068953	0.007042	-0.077637	-0.057878	-0.036752	-0.011956	-0.005492
17 INNEN	-0.016141	-0.004210	-0.042290	0.002665	0.004675	0.004991	0.002651

PER CENT OF VARIATION

EIGENVALUE

VECTOR

1	8.250465	55.8941
2	1.465247	9.8787
3	0.814335	5.7555
4	0.576942	3.8557
5	0.420328	2.8338
6	0.265911	2.4939
7	0.352177	2.3744
8	0.341770	2.3042
9	0.310003	2.0254
10	0.246938	2.0315
11	0.233414	1.9108
12	0.270818	1.8958
13	0.239217	1.6128
14	0.216555	1.4624

15 0.207555 1.402C  
16 0.186000 1.2540  
17 0.149240 1.0262

COMPUTED FROM CORRELATION MATRIX

HYPOTHESIS 1 1 DEGREES OF FREEDOM

=====

DO.CO.DD.CO.DD.DD.DD.DD.

PAGE 8

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 5853.5156

D.F.= 17. AND 2562.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SD	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 ANTAFC	33245.8740	60225.6055	0.0001	60225.5898	0.0001
2 ACCNFC	28555.8659	44332.6719	0.0001	514.2068	0.0001
3 CUPNFC	30655.7743	54015.8242	0.0001	273.3879	0.0001
4 SATPFC	32490.2296	46748.9375	0.0001	29.7556	0.0001
5 PRONFC	28542.5779	37179.5586	0.0001	52.5653	0.0001
6 MESLEN	28655.6243	33126.0078	0.0001	26.5961	0.0001
7 CUALVY	26847.0150	42268.4766	0.0001	197.9142	0.0001
8 ANTVY	26366.0240	43359.9414	0.0001	79.1421	0.0001
9 CPGRA	25551.4559	43683.0156	0.0001	61.8541	0.0001
10 PRCNFC	28555.2176	42109.4062	0.0001	14.5262	0.0002
11 MINPFC	31652.2617	45658.0742	0.0001	7.2128	0.0073
12 MININ	28264.2647	32843.7148	0.0001	1.7339	0.1861
13 FICNFC	28625.0050	43602.3398	0.0001	2.0236	0.1548
14 UKPFC	32548.6593	47205.4844	0.0001	0.5299	0.4670
15 RESNFC	31936.7371	45326.8320	0.0001	18.8872	0.0001
16 CUPNFC	31310.3581	50143.6367	0.0001	26.2617	0.0001
17 UNNFC	24763.8253	26867.8500	0.0001		

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 1

=====

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNEF	7.1235	12.5644	0.0004	12.9044	0.0004
2 ACCNEN	2.2147	3.4770	0.0620	0.6624	0.8029
3 SUPDEC	2.1257	5.5665	0.0195	0.7180	0.6823
4 SATRRF	6.5754	13.0424	0.0016	1.6347	0.1998
5 ORDNEN	3.6647	4.7998	0.0284	0.1047	0.7463
6 MESLEN	5.3152	6.2604	0.0124	0.4313	0.5122
7 QUALVY	7.3094	11.5132	0.0007	4.3384	0.0367
8 AMTNVZ	6.4311	10.5681	0.0012	0.7630	0.3824
9 SPKGRG	2.6562	4.5626	0.0326	0.3855	0.5363
10 PMPCGN	4.9433	7.4080	0.0065	0.4740	0.4933
11 MINDRF	7.8168	11.3251	0.0038	1.0652	0.2999
12 MININ	5.1779	6.0168	0.0142	0.0001	0.9913
13 FICOMP	4.3537	6.6916	0.0097	0.0267	0.8708
14 USENFC	3.4528	5.0970	0.0240	1.1228	0.2891
15 BFCNDN	4.9217	6.9845	0.0093	0.0626	0.9599
16 CLRPIC	2.3168	3.7118	0.0538	0.9632	0.3295
17 UNKNEF	3.3583	7.6436	0.0555	0.2137	0.6445

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578.

# DISCRIMINANT ANALYSIS FOR HYPOTHESES 2

VARIANCE OF CANONICAL VARIATE 1 = 0.0096 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0095  
M= 7.5 N= 1283.0

## --DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNEF	0.741618	0.4510
2 ACCNEN	-0.183639	-0.1466
3 SUPDEC	-0.058367	-0.0718
4 SATRRF	0.292712	0.2419
5 ORDNEN	-0.130152	-0.1140
6 MESLEN	0.080324	0.0740
7 QUALVY	0.496134	0.3953
8 AMTNVZ	0.351526	0.2745
9 SPKGRG	-0.251514	-0.1933
10 PMPCGN	0.169072	0.1381
11 MINDRF	0.431637	0.3586
12 MININ	0.027411	0.0254
13 FICOMP	0.064640	0.0394
14 USENFC	-0.354274	-0.2966
15 BFCNDN	0.103831	0.0872

ROY'S CRITERION= 0.9751  
M= 7.5 N= 1280.0

PER CENT OF CANONICAL VARIATION= 100.00

39.1072

VARIANCE OF CANONICAL VARIATE 1 =

---DISCRIMINANT FUNCTION COEFFICIENTS---

VARIABLE	RAN COEFFICIENT	STANDARDIZED
1 AMTNEO	-0.530110	-0.3539
2 ACCNFO	-0.152973	-0.1221
3 SUPDEC	-0.312478	-0.2354
4 SATBRE	0.061237	0.0411
5 ORONFO	0.014801	0.0130
6 MESLEN	0.017860	0.0165
7 QUALVY	-0.056825	-0.0433
8 AMTNYZ	-0.148131	-0.1156
9 SPKGRA	-0.262057	-0.2015
10 FMPCON	-0.190237	-0.1554
11 MINPRE	-0.067326	-0.0559
12 MININ	-0.056354	-0.0523
13 FZCMP	-0.014356	-0.0116
14 USENFO	0.085104	0.0739
15 RESPNO	0.036535	0.0310
16 CLPTIC	-0.160137	-0.1265
17 UNNFO	-0.125800	-0.1208

HOTELLING'S TRACE CRITERION= 39.1072

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 5465.4492 WITH 17. DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
-6.148548

HYPOTHESIS 2 1 DEGREE(S) OF FREEDOM

=====

01.0.0.0.0.0.0.0.

L/RATING

PAGE 9

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 1.4464

D.F.= 17. AND 2582.0000 P LESS THAN 0.1048

16 CLRPTC -0.394C85 -0.3113  
17 UNNFO 0.115373 0.1108

HOTELLING'S TRACE CRITERION= 0.0056

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 24.5874 WITH 17. DEGREES OF FREEDOM P LESS THAN 0.1041

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1 /PATING

-0.147943

HYPOTHESIS 3 1 DEGREE(S) OF FREEDOM

0.01.C.O.C.O.C.O.

ENGINES

PAGE 10

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 2.3312

D.F.= 17. AND 2562.0000 P LESS THAN 0.0016

VARIATE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNEO	6.5078	11.7890	0.0007	11.7890	0.0037
2 ACCNEO	0.1146	C.1799	0.6724	1.9496	0.1984
3 SUPNEO	2.8602	5.0390	0.0248	C.7222	0.3959
4 SATNEO	1C.3640	14.9124	0.1032	7.1040	0.0077
5 PRONEO	3.4048	4.4311	0.0350	0.1419	0.7086
6 MESLEO	8.6022	10.1243	0.0015	2.2709	0.1313
7 QUAIVY	7.6710	12.0827	0.0006	4.9822	0.0256
8 AMTVZ	2.9744	4.8878	0.0270	C.4477	0.5037
9 SPKGRV	C.7515	1.2717	0.2574	2.7804	0.0552
10 DMCCON	1.1799	1.7682	0.1825	0.3681	0.5289
11 MINDEE	6.8364	9.9046	0.0017	C.8384	0.3609
12 MINIV	4.2522	4.9877	0.0255	3.0295	0.0634
13 FZTME	C.6503	C.5504	0.1230	2.8592	0.0901
14 HSNFO	4.1484	6.0537	0.0139	C.0291	0.8645
15 RESPND	6.1775	8.7667	0.0031	3.5177	0.4734



16 CIRPIC	7.0021	12.5000	0.0005	2.4764	0.1147
17 UNNFO	0.1748	0.1940	0.6617	0.6670	0.4143

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 3  
=====

VARIANCE OF CANONICAL VARIATE 1 = 0.0155 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0153  
M= 7.5 N= 1280.0

---DISCRIMINANT FUNCTION COEFFICIENTS---

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNO	-0.443289	-0.3294
2 ACCNF	0.501652	0.4006
3 SUPDEC	0.258667	0.1949
4 SATBRE	-0.535071	-0.4461
5 ORONFO	0.080020	0.0701
6 MESLEN	-0.266679	-0.2458
7 QUALVY	-0.061806	-0.0867
8 EMTNRY	-0.026301	-0.0205
9 SPAGRA	0.353275	0.2716
10 PHPCON	0.139667	0.1141
11 MINPRE	-0.212065	-0.1762
12 MININ	-0.043065	-0.0400
13 FZCOMP	0.524765	0.4252
14 USFNFO	0.167071	0.1383
15 RESPNO	-0.106740	-0.0896
16 CLDPIC	-0.455479	-0.3546
17 UNNFO	0.160835	0.1545

HOTELLING'S TRACE CRITERION= 0.0155

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 35.5599 WITH 17. DEGREES OF FREEDOM P LESS THAN 0.0015

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
ENGINES

0.142145

HYPOTHESIS 4 1 DEGREES OF FREEDOM  
=====

PAGE 11

TOTALLY

3.0.01.0.0.0.0.0.

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 1.2029

D.F.= 17. AND 2562.0000 P LESS THAN 0.2517

VARIABLE	HYPOTHESIS MEAN SQ
1. ANTAFC	3.5542
2. ACCNEC	0.8758
3. CUPDEC	4.3741
4. SATREF	2.9504
5. DESENE	0.2248
6. MESLEN	0.3634
7. QUALLY	0.8132
8. ANTN77	0.1293
9. CPGCBA	0.0001
10. PMPGON	0.8193
11. MINPRE	0.1470
12. MINATN	0.0511
13. PZCOMP	0.2764
14. USENEP	3.1879
15. PFGPND	1.5953
16. CLPDTG	0.9572
17. UNAFEC	0.3089

UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
7.2392	0.0072	7.2392	0.0072
1.0610	0.3009	0.0503	0.8227
7.1071	0.0077	2.4332	0.1188
4.2452	0.0392	0.0188	0.8911
0.2928	0.5910	1.0647	0.2569
0.4631	0.4941	0.2253	0.6327
1.2809	0.2560	4.8290	0.0279
0.2124	0.6460	0.0012	0.9724
0.0001	0.9904	0.3297	0.5676
1.2278	0.2656	0.6355	0.4268
0.2342	0.6289	1.7831	0.1806
0.1058	0.7462	0.9308	0.9308
0.5733	0.4504	0.3076	0.5677
4.6418	0.0311	0.3256	0.2387
2.2640	0.1316	1.3866	0.9690
1.5772	0.2151	0.0015	0.7743
0.0056	0.9224	0.0832	0.6949

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2579.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 4  
=====

VARIANCE OF CANONICAL VARIATE 1 =

ROY'S CRITERION= 0.0080  
M= 7.5 N= 1283.0

PER CENT OF CANONICAL VARIATION= 103.30

---DISCRIMINANT FUNCTION COEFFICIENTS---

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMNFD	0.57351	0.4263
2 ACCNF	-0.050701	-0.0435
3 SUPDFC	0.255209	0.4536
4 SATRPF	0.239683	0.1588
5 DRONFN	-0.122439	-0.1073
6 MESLEN	-0.027657	-0.0257
7 QUALVY	-0.856144	-0.6822
8 AMNYZ	-0.122525	-0.0956
9 SPKGRA	0.126539	0.0573
10 PMPCN	0.318830	0.2604
11 MINPRE	-0.556213	-0.4621
12 MININ	-0.033450	-0.0310
13 FZCND	0.156124	0.1265
14 USNFD	0.503154	0.4215
15 RESPND	0.033268	0.0279
16 CLPTIC	-0.117751	-0.0930
17 INNFD	-0.107208	-0.1029

HOTELLING'S TRACE CRITERION = 3.0380

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE = 20.5471 WITH 17. DEGREES OF FREEDOM P LESS THAN 0.2473

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

TOTAL

0.117543

HYPOTHESES 5 1 DEGREES OF FREEDOM

ANNUALLY

G.C.C.OI.C.C.C.O.

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS = 1.0777

D.F. = 17. AND 2562.0000 P LESS THAN 0.3677

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNEF	C.2188	C.3564	0.5310	0.3564	0.5310
2 ACCNEF	0.0736	0.1155	0.7353	0.0034	0.9534
3 SUPDEC	0.2348	0.4137	0.5227	C.1268	0.7215
4 SATREF	C.6713	C.5655	0.3289	0.4762	0.4929
5 ORNEF	0.3684	0.4758	0.4533	0.0665	0.8123
6 MESLEN	1.3349	1.5770	0.2081	C.7864	0.3773
7 QUALVY	C.4611	C.7262	0.3574	3.1577	0.0754
8 AMTNY7	C.3515	0.5777	0.4496	2.6371	0.1043
9 SPKGRA	C.1234	C.2089	0.5492	0.8730	0.3531
10 PMDCN	0.8177	1.2244	0.2660	2.5248	0.1116
11 MINPRE	0.8176	1.2642	0.2546	1.0583	0.3014
12 MININ	C.3311	C.3847	0.5365	3.0034	0.9332
13 FZCMP	0.2525	C.4462	0.5056	1.4299	0.2293
14 USENEF	C.7345	1.0719	0.2934	C.7408	0.3872
15 RESND	C.1365	C.0563	0.8138	0.5074	0.4516
16 CIPIC	1.7798	2.8516	0.0507	3.4435	0.0630
17 INNEN	C.2665	0.3109	0.5767	C.0998	0.7526

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578.

# DISCRIMINANT ANALYSIS FOR HYPOTHESIS 5

ROY'S CRITERION= 0.0071  
M= 7.5 N= 1280.0

PER CENT OF CANONICAL VARIATION= 1.0333

VARIANCE OF CANONICAL VARIATE 1 = 0.0072

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNEF	0.121534	0.3993
2 ACCNEF	-0.003116	-0.0025
3 SUPDEC	0.075742	0.0571
4 SATREF	-0.121736	-0.1015
5 ORNEF	-0.102687	-0.0500
6 MESLEN	-0.373647	-0.3490
7 QUALVY	0.226135	0.6583
8 AMTNY7	-0.548332	-0.7358
9 SPKGRA	0.230026	0.1768
10 PMDCN	C.593476	0.4664
11 MINPRE	-0.432030	-0.3340
12 MININ	0.047476	0.0440
13 FZCMP	C.636435	0.5157
14 USENEF	-0.351841	-0.2413
15 RESND	0.562744	0.4724
16 CIPIC	-0.835676	-0.6635
17 INNEN	-0.031169	-0.0275

HOTELLING'S TRACE CRITERION= 0.0072

WILK'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 18.3801 WITH 17 DEGREES OF FREEDOM P LESS THAN 0.3653

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
ANALFV  
P.411130-C2

HYPOTHESES 6 1 DEGREES OF FREEDOM

PAGE 13

GADD

0.0.0.0.0.0.0.0.0.

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 1.3165

D.F.= 17. AND 2562.0000 P LESS THAN 0.1705

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNEC	0.5040	0.9151	0.2413	0.9131	0.3413
2 ATCNEC	0.3177	0.4910	0.4863	0.4880	0.7667
3 SUDECFC	2.1972	3.4435	0.0492	2.9206	0.0874
4 SATARE	2.2360	3.2172	0.0725	0.8237	0.3667
5 ORONEC	0.4653	1.1141	0.2846	0.0022	0.9630
6 MESIEN	0.0378	0.0445	0.8338	0.9628	0.3296
7 QUALVY	0.1675	0.1111	0.7397	2.0480	0.1515
8 AMTNYZ	0.0401	0.0659	0.7590	0.0524	0.8191
9 SPKQDA	0.6538	1.1741	0.2761	1.9548	0.1612
10 PMBCCN	3.7601	5.6348	0.0176	7.2405	0.0072
11 MINPRF	1.1277	1.6339	0.1999	0.0087	0.9260
12 FZCNDP	0.0520	0.0665	0.8065	0.8334	0.3595
13 USFNEC	0.5870	0.8879	0.3497	0.3655	0.5484
14 USFNEC	0.2758	0.4630	0.4545	0.2865	0.5919
15 USFNEC	2.6666	3.7842	0.0514	1.7010	0.1913
16 CIRPTC	1.6876	2.7038	0.0934	0.2269	0.6325
17 UNNEC	2.7259	2.9683	0.0646	2.0605	0.1508



DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 1

ROY'S CRITERION= 0.0087  
M= 7.5 N= 1280.0

PER CENT OF CANONICAL VARIATION= 100.00

VARIANCE OF CANONICAL VARIATE 1 = 0.0088

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMNFO	0.134531	0.1000
2 ACNFO	0.065547	0.0531
3 SUPDC	-0.395331	-0.2978
4 SATBAF	-0.295698	-0.2463
5 PRONEN	-0.130346	-0.1580
6 MESLEN	0.252111	0.2145
7 QUALVY	0.324134	0.2582
8 AMNYF	0.117376	0.0920
9 SPKGRA	0.756643	0.5817
10 EPCCN	-0.819229	-0.6692
11 MINPRF	-0.592222	-0.4769
12 MININ	0.346661	0.3218
13 FZCWP	-0.113604	-0.0960
14 LSENEB	0.426511	0.3368
15 RESENE	-0.395762	-0.3356
16 CLAPIC	-0.174336	-0.1382
17 INNFO	-0.374616	-0.2596

HOTELLING'S TRACE CRITERION= 0.0088

WILK'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 ONE SQUARE= 22.4749 WITH 17 DEGREES OF FREEDOM P LESS THAN 0.1672

CANONICAL FORM OF LEAST SQUARE ESTIMATES--VARIATES X EFFECTS

HYPOTHESIS 7 1 DEGREES OF FREEDOM

GABO

-0.2400370=02

POWERPNT

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 1.9418

D.F.= 17. AND 2562.0000 P LESS THAN 0.0116

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMNFC	7.1116	12.9190	0.0004	12.9190	0.0004
2 ACCNF	2.1011	3.2687	0.0690	0.3378	0.8460
3 SUEFC	2.0592	3.6566	0.0544	0.0102	0.9196
4 SATRF	1.4561	2.1527	0.1415	0.6902	0.4095
5 TRDNF	0.6870	0.6948	0.3481	0.2441	0.6206
6 MESFN	4.4123	5.1931	0.0227	2.0044	0.1560
7 CUBVY	0.8165	1.3711	0.2398	0.3000	0.5977
8 AMNY7	0.0912	0.1455	0.7001	0.5626	0.3270
9 SPKGA	0.1262	0.2135	0.6459	0.2324	0.6309
10 PMECN	1.2473	1.8628	0.1739	0.2665	0.6071
11 MKNRE	10.2109	14.7936	0.0002	8.7365	0.0032
12 MTN	5.1766	6.0154	0.0142	3.3008	0.9770
13 F7CMP	2.0565	3.1321	0.0762	0.1770	0.6765
14 USENF	3.9745	5.7598	0.0160	0.0059	0.9387
15 RSPND	8.1019	11.4578	0.0008	3.1844	0.0743
16 CIRPTC	8.1868	13.1165	0.0003	2.9819	0.0836
17 INNEN	2.9545	3.2489	0.0710	0.5102	0.4747

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 1

VARIANCE OF CANONICAL VARIATE 1 = 0.0129 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0127  
M= 7.5 N= 1280.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
----------	-----------------	--------------

1	ANTNFO	-0.742026	-0.4513
2	ACNFO	-0.037414	-0.0299
3	SLDEC	0.232763	0.1754
4	SATRE	0.594834	0.4959
5	OFONFO	0.227685	0.2871
6	MSLEN	-0.221638	-0.2043
7	QLALV	-0.184563	-0.1474
8	ANTNYZ	0.273550	0.2917
9	SEKRA	0.180847	0.1360
10	PAPCON	0.049819	0.0407
11	MINPRE	-0.711581	-0.5915
12	MININ	0.064189	0.0595
13	F4OMP	0.046171	0.0374
14	UFENPD	0.230474	0.1908
15	PESPND	-0.396709	-0.3330
16	CLPIC	-0.575469	-0.4578
17	IRNFO	-0.154332	-0.1481

HOTELLING'S TRACE CRITERION = 0.0129

EARTLET'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS	1 TRFLOCH	1 CHI SQUARE	32.4853	WITH	17. DEGREES OF FREEDOM	P LESS THAN 0.0117
-----------	-----------	--------------	---------	------	------------------------	--------------------

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
POWERPNT  
-0.245565

HYPOTHESIS 8 1 DEGREE(S) OF FREEDOM  
=====

PAGE 15

0.0.0.0.0.0.01.0.

OLD USE

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 2.1559

D.F. 17, AND 2562.0000 P LESS THAN 0.0032

VARIATE	HYPOTHESIS	MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
---------	------------	---------	--------------	-------------	-------------	-------------

1	AMTNEO	6.1634	11.1651	0.0009	11.1651	0.0009
2	ACCNEO	1.3831	2.1115	0.1394	0.0036	0.9521
3	SUPDEC	7.7455	12.4855	0.3033	5.4992	0.0191
4	SATBRF	11.9716	17.2255	0.0001	4.4726	0.0344
5	ORONFO	9.6264	12.5524	0.0005	2.3587	0.1242
6	MESLEN	11.1774	13.1551	0.3003	1.3332	0.2471
7	QUALVY	1.2946	2.0391	0.1521	1.2043	0.2707
8	AM*NYZ	2.8764	4.7318	0.0296	0.7399	0.3897
9	SPKGRG	1.7607	2.5755	0.0840	0.0335	0.8550
10	PMPCCN	5.9420	8.9046	0.0029	1.5347	0.2143
11	MINPRF	17.3596	25.1507	0.3301	6.7252	0.0096
12	MININ	14.1229	16.4112	0.0001	0.7886	0.3764
13	FZCOMP	6.4188	9.7759	0.0018	0.1364	0.7160
14	USENEO	12.1562	17.7392	0.3301	0.6441	0.4212
15	RESPND	12.4347	18.2141	0.0001	0.3823	0.5369
16	CLRPIC	10.4677	16.7708	0.0001	0.1665	0.7452
17	UNNEO	3.4845	3.7806	0.3517	0.1200	0.7296

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 2578.

# DISCRIMINANT ANALYSIS FOR HYPOTHESIS B

VARIANCE OF CANONICAL VARIATE 1 = 0.0146 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0144  
M= 7.5 N= 1280.0

## --DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNEO	-0.066635	-0.0455
2 ACCNEO	0.423970	0.3384
3 SUPDEC	-0.090514	-0.0682
4 SATBRF	-0.136777	-0.1157
5 ORONFO	-0.239237	-0.2097
6 MESLEN	-0.228588	-0.2111
7 QUALVY	0.517348	0.4122
8 AM*NYZ	-0.185631	-0.1448
9 SPKGRG	0.114135	0.0877
10 PMPCCN	-0.158891	-0.1298
11 MINPRF	-0.474555	-0.3646
12 MININ	-0.157633	-0.1033
13 FZCOMP	-0.025184	-0.0236
14 USENEO	-0.179354	-0.1489
15 RESPND	-0.171655	-0.1436
16 CLRPIC	-0.139220	-0.0863
17 UNNEO	0.270454	0.0676

HOTELLING'S TRACE CRITERION= 0.0146

-----  
 PARTLETTS CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES  
 -----

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 37.1429 WITH 17. DEGREES OF FREEDOM P LESS THAN 0.0033

-----  
 CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS  
 -----

1  
 C10 USE  
 5.3568280-C2

HYPOTHESIS 9 1 DEGREE(S) OF FREEDOM  
 =====

0.0.0.0.0.0.0.0.1.

PAGE 16

NEW USE

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 4.0478

D.F.= 17. AND 2562.000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F		STEP DOWN F	
		P LESS THAN		P LESS THAN	
1 AMTNEC	21.3670	38.7068	0.0001	38.7068	0.0001
2 ACCNEC	18.7185	28.6031	0.0001	7.4087	0.0053
3 CUPNEC	12.6421	22.2726	0.0001	6.6504	0.0198
4 SATNEC	15.4667	27.9235	0.0001	1.2505	0.2618
5 CPDNEC	10.4414	13.6009	0.0001	0.0277	0.8677
6 MESNEC	20.6706	24.3281	0.0001	3.2389	0.0715
7 QUBALV	6.7585	1.1947	0.2724	7.6064	0.0059
8 AMTNY7	2.2766	3.7411	0.0528	0.0417	0.8364
9 SPKGR4	2.4582	4.9044	0.0267	0.0628	0.8029
10 PMPCON	3.4011	5.6963	0.0170	0.0217	0.8590
11 MTAPRE	16.9579	24.5686	0.0001	1.7473	0.1850
12 MTATN	16.5671	19.7162	0.0001	1.4693	0.2253
13 FZCMP	11.5254	17.5534	0.0001	1.6356	0.1989
14 USENEC	22.6642	23.0733	0.0001	1.5444	0.2141
15 RESNPD	15.3271	27.6277	0.0001	0.1383	0.7104
16 CLSPIC	19.3053	30.9362	0.0001	1.0085	0.3127
17 UNNEC	3.0140	3.2701	0.0701	1.7483	0.1856

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
 DEGREES OF FREEDOM FOR ERROR= 2578.



# DISCRIMINANT ANALYSIS FOR HYPOTHESIS 5

ROY'S CRITERION= 0.0262  
N= 7.5 N= 1280.0

PER CENT OF CANONICAL VARIATION= 100.00

VARIANCE OF CANONICAL VARIATE 1 = 0.0269

## --DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMNFO	-0.497632	-0.3657
2 ACCNEO	-0.412331	-0.3291
3 SUPDEC	0.064549	0.0489
4 SATBEF	-0.045647	-0.0379
5 ORDNFO	0.082855	0.0726
6 MESLEN	-0.358582	-0.2309
7 QUALVY	0.627226	0.4998
8 AMNYZ	-0.002840	-0.0022
9 SPKGRA	-0.025549	-0.0020
10 PPGCEN	0.127737	0.0986
11 MINPRE	-0.012183	-0.0101
12 MININ	-0.155024	-0.1109
13 FICOMP	-0.207606	-0.1683
14 USENFO	-0.226144	-0.1555
15 RESPRD	-0.050099	-0.0425
16 CLPPIC	-0.253556	-0.1983
17 UNNFO	0.198911	0.1510

HOTELLING'S TRACE CRITERION= 0.0269

## BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 64.2519 WITH 17 DEGREES OF FREEDOM P LESS THAN 0.0001

## CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

NEW USE  
1 0.174995

MULTIVARIATE ANALYSIS OF VARIANCE  
(QUESTION 8--REACTION TO TRIAL PATWAS)

This section contains the results of the multivariate analysis of variance of question 8 using the responses from the initial and follow-up returns. The highlights of the findings are presented in the volume I section entitled PILOT SURVEY.

UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE, COVARIANCE, AND REGRESSION

PROGRAM VERSION 5.3      DISTRIBUTED BY

INTERNATIONAL EDUCATIONAL SERVICES  
P.O. BOX A3650  
CHICAGO, ILLINOIS 60690  
(312) 684-4920

THIS COPY AUTHORIZED FOR USE ONLY BY:

J.S. FEDERAL AVIATION ADMINISTRATION

NAFEC

ATLANTIC CITY, N.J. 08405

ON THE

IBM 360/9020

PROGRAM COPYRIGHT HELD BY NATIONAL EDUCATIONAL RESOURCES, INC., 1972  
DISTRIBUTION OR USE UNAUTHORIZED BY NATIONAL EDUCATIONAL RESOURCES, INC. IS PROHIBITED.

## ANALYSIS OF PAYAS QUESTIONNAIRE - QUESTION 6

**PAGE 1**

### INPUT PARAMETERS

PAGE 2

NUMBER OF VARIABLES IN INPUT VECTORS= 14

# NUMBER OF FACTORS IN DESIGN

	NUMBER OF LEVELS OF	FACTOR 1	L/RATING)
1	NUMBER OF LEVELS OF	FACTOR 2	(ENGINES)
2	NUMBER OF LEVELS OF	FACTOR 3	(TOTALFLY)
3	NUMBER OF LEVELS OF	FACTOR 4	(ANNUALFLY)
4	NUMBER OF LEVELS OF	FACTOR 5	(GADO)
5	NUMBER OF LEVELS OF	FACTOR 6	(POWERPMT)
6	NUMBER OF LEVELS OF	FACTOR 7	(OLC USE)
7	NUMBER OF LEVELS OF	FACTOR 8	(NEW USE)

INPUT IS FROM CARDS. DATA OPTION 2

MINIMAL PAGE SPACING WILL BE USED

```

      F(RMAT OF DATA
      (35X,F2.1,4F1.0,F2.1,2F1.0,F2.1,5F1.0)

```

**FIRST OBSERVATION**

[illegible]

## CELL IDENTIFICATION AND FREQUENCIES

**PAGE 3**

CELL FACTOR LEVELS

	L/RATING	ENGINES	TOTALFLY	ANNUALLY	GADO	POWERPNT	OLD USE	NEW USE
1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	2
3	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	2	1
EMPTY	1	1	1	1	1	2	1	2
EMPTY	1	1	1	1	1	2	1	1
EMPTY	1	1	1	1	1	2	2	2
5	1	1	1	1	2	1	1	1

EMPTY	0
EMPTY	0
6	1
EMPTY	0
EMPTY	0
EMPTY	0
EMPTY	0
7	9
8	3
9	1
10	1
EMPTY	0
EMPTY	0
EMPTY	0
EMPTY	0
11	3
12	3
13	1
14	1
EMPTY	0
EMPTY	0
EMPTY	0
EMPTY	0
15	13
16	5
17	0
EMPTY	0
EMPTY	0
EMPTY	0
EMPTY	0
EMPTY	0
18	10
19	1
20	1
21	1
22	1
EMPTY	0
EMPTY	0
EMPTY	0
EMPTY	0
23	13
24	7
25	4
26	14
EMPTY	0
27	1
EMPTY	0
EMPTY	0
28	17
29	11
EMPTY	0
30	10
31	6
EMPTY	3
EMPTY	0
EMPTY	0
EMPTY	0
32	463
33	223
34	38
35	76
36	7
37	1









155  
EMPTY

2

2

2

2

2

2

2

2

2

2

2

2

2

2

TOTAL N= 4298.

101 NULL SUBCLASSES).

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTFJ	ACNFJ	CONSAT	OROSAT	SUPDEC	MESLEN	EZUNO	LONTZ	SPCGR	PAPCCN
1	3.388889	3.300000	2.777778	3.300000	3.666667	2.833333	3.111111	3.222222	3.333333	2.838889
2	3.250000	4.000000	4.000000	3.000000	4.500000	3.300000	4.000000	4.000000	3.750000	4.000000
3	4.500000	0.0	4.000000	4.000000	5.000000	4.000000	4.000000	4.000000	3.000000	4.000000
4	3.000000	3.500000	3.500000	3.500000	3.500000	3.500000	4.000000	4.500000	2.000000	3.833333
5	3.916667	3.833333	4.000000	4.000000	3.156667	3.583333	4.000000	3.833333	3.000000	3.833333
6	3.500000	4.000000	4.000000	4.000000	4.000000	3.500000	3.000000	4.000000	4.000000	5.000000
7	3.444444	3.555556	3.555556	4.000000	3.444444	3.888889	3.888889	3.777778	4.000000	4.222222
8	2.833333	4.000000	4.000000	4.000000	3.666667	3.166667	4.000000	3.333333	4.000000	4.000000
9	4.000000	4.000000	4.000000	4.000000	4.000000	3.000000	4.000000	4.000000	3.000000	4.000000
10	3.833333	4.000000	4.000000	4.000000	3.666667	3.666667	3.000000	3.000000	3.333333	4.666667
11	3.333333	4.000000	4.000000	2.666667	3.000000	3.500000	1.000000	1.000000	4.000000	1.000000
12	3.500000	2.000000	4.000000	4.000000	5.000000	3.500000	4.000000	4.000000	4.000000	4.000000
13	4.000000	2.000000	4.000000	4.000000	2.000000	3.583333	3.692308	3.843154	4.000000	3.538462
14	3.423077	3.692308	3.423077	4.000000	3.500000	3.538462	3.692308	3.843154	4.000000	3.423077
15	3.416667	4.000000	4.000000	4.000000	3.500000	3.538462	3.692308	3.843154	4.000000	3.416667
16	3.500000	2.500000	4.000000	4.000000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000
17	3.450000	4.000000	4.000000	4.000000	3.500000	3.500000	3.500000	3.500000	3.500000	3.500000
18	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
19	3.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
20	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
21	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
22	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
23	3.423077	3.769231	1.769231	4.000000	3.843154	3.153846	3.769231	3.769231	3.615385	3.769231
24	3.571429	4.000000	4.000000	4.000000	4.142857	3.571429	3.571429	3.142857	3.357143	4.000000
25	4.000000	3.500000	4.000000	4.000000	3.250000	1.500000	3.500000	3.000000	2.500000	4.250000
26	4.071429	3.357143	1.571429	3.642857	3.357143	3.785714	3.357143	3.214286	3.571429	4.000000
27	4.000000	4.000000	4.000000	4.000000	3.000000	4.000000	2.000000	3.000000	3.000000	4.000000
28	3.264706	2.647059	1.352941	3.673588	3.588235	3.258924	3.588235	3.258924	3.147059	3.352941
29	3.636364	3.545455	1.909091	4.090909	3.454545	3.772727	4.000000	4.181818	3.590909	3.000000
30	3.500000	4.156667	1.833333	4.166667	3.833333	3.666667	4.166667	4.166667	3.333333	3.666667
31	3.497840	3.602592	1.758099	3.583153	3.333333	3.333333	4.333333	3.719222	3.484881	3.801296
32	3.518339	3.757848	3.896861	3.753363	3.511211	3.325054	3.799136	3.523316	3.651435	3.950673
33	3.537835	3.815789	3.58421	3.557895	3.236842	3.789947	3.736842	3.368421	3.586842	3.384621
34	3.703947	3.815789	3.828947	3.723684	3.631579	3.733947	3.710526	3.736842	3.736842	3.710526
35	3.500000	3.142857	3.285714	4.000000	4.000000	4.000000	4.000000	3.428571	4.285714	3.428571
36	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000	4.000000
37	3.500000	4.000000	4.000000	4.000000	4.000000	3.500000	5.000000	5.000000	3.511364	5.000000
38	3.589015	3.606061	3.731061	3.643939	3.503788	3.375970	3.855626	3.696970	3.511364	3.356061
39	3.621353	3.572316	3.57282	3.57282	3.524272	3.466019	3.747573	3.738738	3.679512	3.323388
40	3.596154	3.461538	3.759231	3.461538	3.461538	3.269231	3.653846	3.615385	3.730769	3.769231
41	3.965517	3.827586	3.620690	4.000000	3.731333	3.831334	3.793133	3.620690	3.775862	3.379310
42	1.500000	3.250000	3.750000	3.750000	4.250000	2.250000	2.750000	2.750000	1.500000	4.250000
43										

44 3.000000 4.000000 4.000000 4.000000 5.000000 3.000000 4.000000 4.000000 4.000000 4.000000 2.000000  
 45 3.000000 4.000000 4.000000 4.000000 5.000000 3.000000 4.000000 4.000000 4.000000 4.000000 4.000000  
 46 3.650000 3.67190 3.714286 3.714286 3.714286 3.714286 3.714286 3.714286 3.714286 3.714286 3.714286  
 47 3.675000 3.791667 3.120833 3.737500 3.537500 3.541667 3.662500 3.604167 3.604167 3.604167 3.742857  
 48 3.500000 3.250000 3.750000 3.750000 3.750000 3.750000 3.750000 3.750000 3.750000 3.750000 3.500000  
 49 3.670732 3.560976 3.553659 3.583366 3.512195 3.609756 3.583366 3.583366 3.583366 3.583366 3.926829  
 50 3.615862 3.611881 3.593069 3.693069 3.665347 3.282178 3.621782 3.653465 3.653465 3.653465 3.465545

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCND	CONSAT	ORDSAT	SUPDEC	MESLEN	ELUND	LDNYL	SPKGRA	PHPCOM
51	3.028311	3.730426	3.900709	3.751773	3.595745	3.446809	3.574458	3.652482	3.653121	3.392371
52	3.055556	3.888889	3.777778	3.111111	3.222222	2.888889	3.666667	3.444444	3.000000	2.555556
53	3.803030	3.878788	3.606061	3.818182	3.696970	3.551515	3.596970	3.575758	3.000000	2.818182
54	3.000000	3.000000	4.000000	4.000000	3.000000	3.000000	4.000000	4.000000	4.000000	4.000000
55	3.080357	3.58286	3.521143	3.767857	3.750000	2.973214	3.678571	3.660714	3.194429	3.642857
56	3.647826	3.521739	3.869565	3.782609	3.652174	3.673913	3.608696	3.695652	3.760870	3.669565
57	3.507692	3.307492	3.615385	3.692308	2.923077	3.538462	3.615385	3.769231	3.230769	3.538462
58	3.588235	3.470753	3.882353	3.529412	3.764706	3.500000	3.664667	3.411765	3.764706	3.725892
59	3.500000	4.000000	4.000000	4.000000	4.000000	3.000000	4.000000	4.000000	3.000000	4.000000
60	4.000000	4.000000	4.000000	4.000000	4.000000	3.000000	4.000000	4.000000	3.000000	4.000000
61	4.000000	4.000000	4.000000	4.000000	4.000000	3.000000	4.000000	4.000000	3.000000	4.000000
62	3.192308	3.538462	3.717949	3.743590	3.584652	3.551282	3.641026	3.635897	3.192308	3.179487
63	3.500000	3.833333	3.277778	4.000000	3.611111	3.527778	3.844444	3.888889	3.722222	3.700000
64	3.700000	3.200000	3.500000	3.600000	3.200000	3.700000	4.000000	3.200000	3.700000	3.500000
65	3.750000	3.750000	4.000000	4.000000	4.000000	3.750000	4.000000	4.000000	4.000000	3.500000
66	3.493151	3.602740	3.812500	3.729167	3.479167	3.635417	3.506849	3.657534	3.510417	3.808219
67	3.750000	3.750000	4.000000	4.000000	3.750000	3.729167	3.687534	3.727273	3.954545	3.750000
68	3.863333	3.536364	3.850000	3.925000	3.545455	3.863636	3.909091	3.727273	3.800000	4.000000
69	3.562500	3.725000	3.850000	4.000000	3.775000	3.725000	4.000000	3.775000	4.000000	4.000000
70	4.250000	3.500000	4.000000	4.000000	3.000000	4.000000	4.000000	4.000000	4.000000	4.000000
71	4.166667	4.000000	4.000000	4.000000	3.666667	3.833333	4.333333	3.666667	4.000000	2.333333
72	3.272727	3.568182	3.565455	3.727273	3.131818	3.665909	3.727273	3.750000	3.750000	3.045455
73	3.385714	3.800000	3.800000	3.885714	3.828571	3.557143	3.742857	3.657143	3.542857	3.200000
74	3.350000	3.500000	3.500000	3.400000	3.500000	3.400000	3.900000	3.300000	3.900000	3.500000
75	3.375000	3.700000	3.350000	3.850000	3.750000	3.625000	3.250000	4.000000	4.000000	3.200000
76	3.937500	3.625000	4.000000	4.000000	2.000000	5.000000	6.250000	4.000000	4.000000	4.000000
77	5.000000	4.000000	4.000000	4.000000	1.000000	3.000000	2.000000	4.000000	2.000000	4.000000
78	3.000000	4.000000	4.000000	4.000000	3.500000	4.000000	4.000000	2.000000	3.000000	4.000000
79	3.500000	3.500000	4.000000	3.333333	3.333333	3.166667	3.333333	3.666667	3.666667	4.000000
80	2.166667	4.000000	2.000000	2.000000	3.000000	3.500000	2.000000	4.000000	3.000000	4.000000
81	3.500000	3.000000	4.000000	4.000000	3.500000	4.000000	4.000000	4.000000	4.000000	4.000000
82	4.000000	3.500000	4.000000	4.000000	3.500000	4.000000	4.000000	4.000000	4.000000	4.000000
83	3.357143	4.142857	4.000000	3.428571	3.428571	2.583333	3.833333	4.000000	4.000000	4.000000
84	3.833333	3.833333	3.666667	4.000000	3.666667	3.800000	4.000000	4.000000	4.000000	4.000000
85	3.700000	3.800000	3.800000	3.800000	2.800000	3.500000	3.333333	4.000000	3.500000	3.333333
86	4.333333	4.166667	4.000000	4.000000	2.857143	4.000000	3.571429	4.000000	3.750000	2.714286
87	3.714286	3.857143	4.000000	3.714286	3.750000	3.500000	3.818182	4.000000	3.500000	3.000000
88	4.000000	3.727273	4.000000	4.000000	3.000000	4.000000	3.818182	4.000000	4.000000	3.727273
89	3.727273	3.727273	4.000000	4.000000	3.750000	3.866154	4.000000	3.818182	4.022727	3.000000
90	3.866154	3.923077	4.000000	3.692308	3.615385	3.272727	4.153846	3.866154	4.076923	4.076923
91	3.727273	3.090909	1.727273	3.454545	3.363636	3.363636	3.636364	3.363636	3.409091	3.000000
92	3.708333	3.583333	1.833333	3.916667	3.533333	3.500000	3.833333	3.666667	3.500000	4.083333
93	3.666667	4.000000	1.666667	4.000000	3.833333	3.750000	3.833333	3.666667	3.666667	4.000000
94	4.000000	4.000000	4.000000	4.000000	4.000000	3.000000	4.000000	4.000000	4.000000	4.000000
95	3.500000	4.000000	4.000000	3.000000	4.000000	3.500000	4.000000	4.000000	4.000000	4.000000



96 3.309524 3.142857 3.809524 3.809524 3.809524 3.000000 3.857143 3.857143 3.238095 3.095238  
 97 3.428571 3.428571 3.285714 3.857143 3.857143 3.371429 3.857143 3.857143 3.214286 3.428571  
 98 4.333333 3.000000 3.333333 4.333333 4.333333 4.000000 4.000000 4.000000 3.833333 4.000000  
 99 3.900000 4.000000 4.000000 4.000000 4.000000 3.230000 3.800000 3.800000 3.800000 4.000000  
 100 3.333333 3.666667 4.000000 3.666667 3.666667 3.666667 4.000000 4.000000 4.000000 4.000000

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCMFO	CONSAT	OROSAT	SUPDEC	WESLEN	ELUND	LOWYZ	SPCGR	PMPCON
101	3.833333	3.333333	3.333333	3.333333	2.000000	3.666667	4.333333	4.333333	3.000000	3.333333
102	3.871429	3.496352	3.518248	3.627737	3.102190	3.215328	3.627737	3.474453	3.456234	3.527737
103	3.579882	3.655462	3.764303	3.781513	3.316555	3.327737	3.655462	3.714286	3.705882	4.109244
104	3.322581	3.612903	3.541387	3.838710	3.129032	3.387037	3.774194	3.806452	3.730323	3.719355
105	3.725033	3.725033	3.910000	3.860000	3.480000	3.400000	3.960000	3.870000	3.630000	3.910000
106	3.440476	3.738095	3.835932	3.714286	3.309524	3.309524	3.690476	3.690476	3.369048	3.976130
107	3.782609	3.608696	3.868565	3.826087	3.608696	3.478261	4.234678	3.826087	3.586957	4.086957
108	3.083333	3.156667	3.500000	3.666667	3.166667	3.500000	3.166667	2.833333	3.666667	3.333333
109	3.950000	4.000000	4.200000	4.000000	3.900000	3.800000	3.900000	3.500000	4.000000	4.200000
110	3.432927	3.463415	3.524390	3.585365	3.231707	3.243932	3.750398	3.768293	3.560976	3.512195
111	3.184211	3.531573	3.524315	3.473684	2.894737	3.368421	3.894737	3.894737	3.921053	3.735942
112	3.394737	3.649123	3.490909	3.581818	3.435059	3.271930	3.842105	3.507772	3.552632	3.736842
113	3.219182	3.400000	3.691652	3.739130	3.217391	3.521739	3.913043	3.695652	3.390909	3.400000
114	3.673913	3.521739	3.921571	3.714286	3.428571	3.214286	3.714286	3.428571	3.847826	3.133635
115	3.500000	3.714286	3.921571	3.785714	3.142857	3.542857	3.428571	3.642857	3.571429	3.628571
116	3.785714	3.714286	3.647857	3.285714	3.428571	3.321429	3.571429	3.642857	3.750000	3.537143
117	3.571429	3.600000	3.401000	3.600000	3.600000	3.400000	3.800000	4.000000	3.900000	3.600000
118	3.000000	3.000000	3.801000	3.600000	3.401000	3.333333	3.277778	3.444444	3.500000	4.222222
119	3.686667	3.000000	3.666667	3.888889	3.333333	3.333333	3.444444	4.000000	4.000000	4.000000
120	4.000000	3.000000	3.001000	3.000000	3.000000	3.500000	4.000000	4.000000	4.000000	4.000000
121	3.588235	3.647059	3.821529	3.705882	3.352341	3.529412	3.823529	3.705882	3.764706	3.294118
122	3.600000	3.600000	3.200000	3.600000	2.800000	3.300000	3.800000	3.800000	3.400000	3.800000
123	3.000000	3.000000	3.250000	3.500000	3.750000	3.250000	4.000000	4.000000	3.750000	3.500000
124	3.875000	3.500000	3.881481	3.592593	3.333333	3.500000	4.000000	4.000000	3.875000	4.250000
125	3.574074	3.555556	3.481481	3.822222	3.288889	3.533333	3.703704	3.518519	3.500000	3.925926
126	3.856557	3.588889	3.800000	3.822222	3.288889	3.533333	3.777778	3.800000	3.588889	4.155556
127	3.800000	3.400000	3.812500	3.600000	3.812500	3.937500	3.800000	3.600000	2.700000	3.400000
128	3.625000	3.562500	3.812500	4.000000	4.000000	2.000000	3.875000	3.500000	3.812500	5.000000
129	1.500000	5.000000	3.421053	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
130	3.447368	3.263158	3.526316	3.473684	2.684211	3.105263	3.315789	3.368421	3.375000	3.210526
131	3.925000	3.750000	3.800000	3.900000	2.900000	3.500000	3.500000	4.000000	3.975000	2.750000
132	3.750000	3.750000	3.000000	3.250000	3.250000	2.500000	3.500000	3.333333	3.875000	4.000000
133	3.583333	3.416667	3.500000	3.583333	3.500000	3.458333	3.500000	3.416667	3.500000	3.250000
134	3.634615	3.730769	3.461538	3.807692	3.834615	3.173377	3.730769	3.846154	3.788462	3.730769
135	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
136	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
137	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
138	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
139	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
140	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
141	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
142	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
143	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
144	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
145	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
146	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244
147	3.52632	3.842105	3.64211	3.736842	3.526316	3.358421	3.894737	3.526316	3.736842	4.109244

AD-A047 248

NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATL--ETC F/G 4/2  
NEW YORK CITY PILOTS AUTOMATIC TELEPHONE WEATHER ANSWERING SERV--ETC(U)  
OCT 77 F STAIANO, E SHOCHET

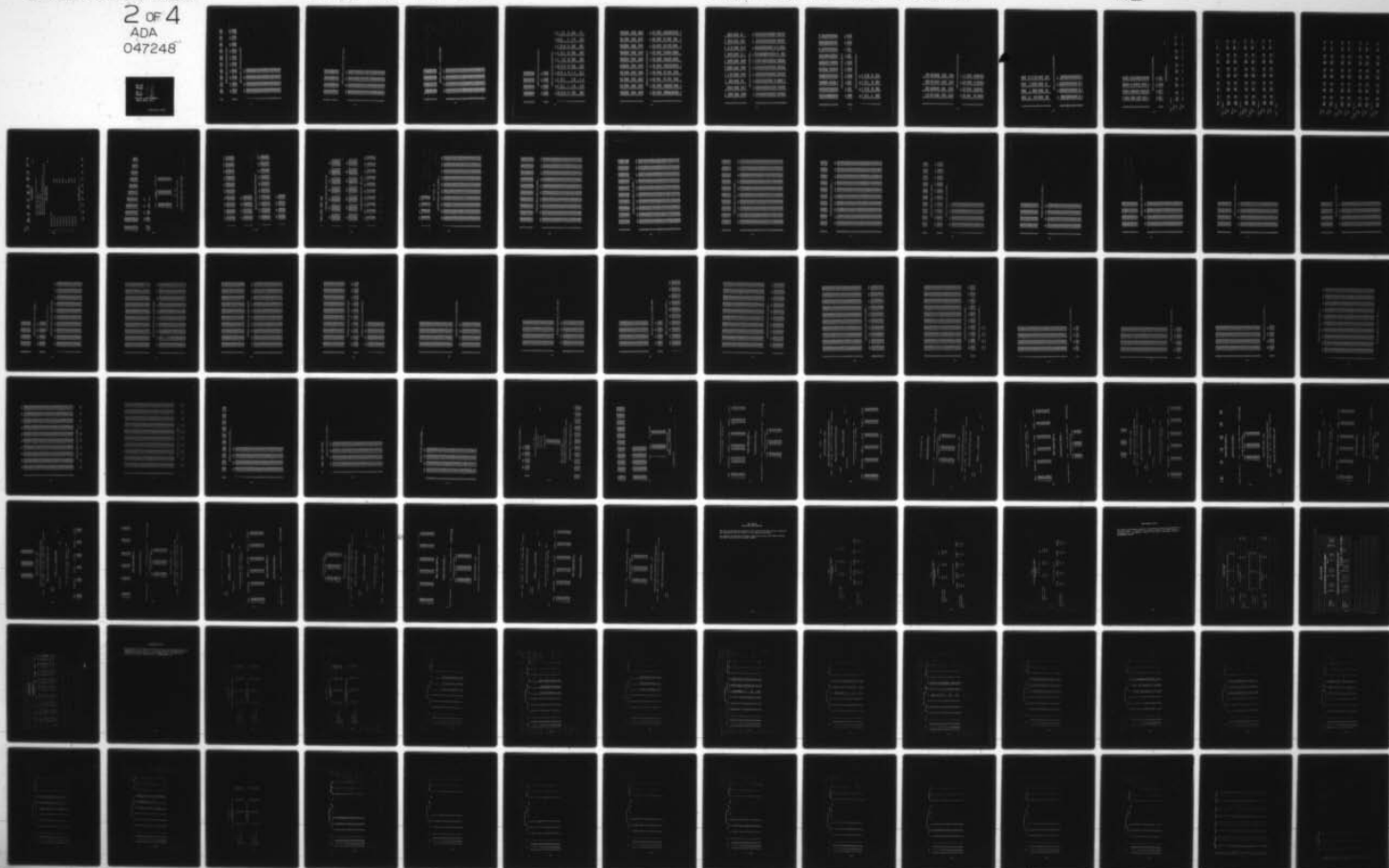
UNCLASSIFIED

FAA-NA-77-21

FAA-RD-77-80-VOL-2

NL

2 OF 4  
ADA  
047248



	1	2	3	4	5	6	7	8	9	10
148	3.800000	3.400000	3.600000	4.000000	4.000000	3.800000	4.400000	4.200000	4.000000	3.800000
149	3.833333	3.466667	4.000000	3.466667	4.000000	3.466667	4.000000	3.333333	3.333333	3.333333
150	3.222222	3.277778	3.333333	3.472222	3.111111	3.013889	3.611111	3.472222	3.152778	3.444444

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
151	3.583333	3.857143	3.785714	3.904762	3.452381	3.404762	3.809524	3.452381	3.702381	3.357143
152	3.625000	3.525000	3.937500	3.875000	3.250000	3.656250	3.625000	3.500000	3.375000	3.252500
153	3.474359	3.589744	3.759231	4.000000	3.25128	3.371795	3.717949	3.512821	3.717949	3.410256
154	2.916667	3.166667	3.166667	3.166667	3.166667	2.666667	3.333333	3.000000	3.250000	3.500000
155	3.750000	4.000000	4.000000	2.000000	1.000000	3.250000	4.000000	4.003333	3.500000	3.000000

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	11	12	13	14
1	EZCOMP	CLRPIC	NOTAMS	MRLJP
2	3.222222	3.777778	4.000000	4.555556
3	4.000000	4.000000	5.000000	5.000000
4	4.000000	4.000000	5.000000	5.000000
5	3.500000	3.500000	3.500000	4.000000
6	3.000000	3.333333	3.833333	4.000000
7	4.000000	4.000000	4.000000	5.000000
8	3.777778	3.555556	4.222222	3.333333
9	4.000000	3.666667	4.000000	3.333333
10	4.000000	2.000000	4.000000	5.000000
11	3.000000	2.333333	3.333333	5.000000
12	4.000000	4.000000	4.666667	4.333333
13	4.000000	4.000000	3.000000	5.000000
14	4.000000	4.000000	4.000000	4.000000
15	3.846154	3.615385	3.846154	4.076923
16	3.333333	3.666667	4.166667	4.500000
17	3.600000	3.400000	4.000000	4.400000
18	3.500000	3.700000	4.000000	3.700000
19	4.000000	3.000000	4.000000	4.000000
20	4.000000	4.000000	4.000000	4.000000
21	4.000000	4.000000	4.000000	4.000000
22	4.000000	4.000000	4.000000	4.000000
23	3.615385	3.538462	3.846154	4.076923
24	4.000000	4.25714	4.285714	4.571429
25	4.500000	4.000000	4.250000	4.500000
26	3.714286	3.785714	3.928571	4.071429
27	3.000000	3.000000	4.000000	4.000000
28	3.703882	3.529412	4.058824	4.588235
29	3.636364	3.363636	4.272727	4.181818
30	3.833333	3.833333	4.166667	4.500000
31	4.000000	3.599957	4.000000	4.333333
32	3.678166	3.539957	3.937355	4.289942
33	3.843049	3.636771	4.183837	4.502242
34	3.394737	3.289474	4.078947	4.473684
35	4.013158	3.776316	4.236842	4.539474

36	3.428571	3.285714	4.142857	4.142857
37	4.000000	4.000000	4.000000	4.000000
38	4.000000	4.000000	4.000000	4.000000
39	3.602273	3.507576	3.955939	4.139848
40	3.572816	3.485837	3.165049	4.378641
41	3.807692	3.576923	4.076923	4.307692
42	3.896552	4.034483	4.379310	4.689655
43	4.000000	4.000000	2.250000	3.000000
44	4.000000	4.000000	4.000000	4.000000
45	4.000000	4.000000	5.000000	5.000000
46	3.714286	3.614286	4.314286	4.371429
47	3.887500	3.614667	4.229167	4.537500
48	3.875000	3.375000	4.125000	4.750000
49	3.375000	3.882227	4.121951	4.563978
50	3.574257	3.504950	4.019802	4.247525

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	11 EZCOMP	12 CLRPTC	13 NOTAMS	14 HRLUP
51	3.893617	3.730496	4.191439	4.439716
52	3.888889	3.333333	4.000000	5.000000
53	3.939394	3.787879	4.424242	4.484848
54	4.000000	3.000000	4.000000	4.000000
55	3.464286	3.571429	3.821429	4.035714
56	3.782609	3.565217	4.086957	4.130435
57	3.615385	3.611538	3.592308	3.613385
58	4.000000	3.529412	4.117647	4.176471
59	4.000000	4.000000	4.000000	4.333333
60	4.000000	4.000000	4.000000	5.000000
61	4.000000	4.000000	4.000000	4.000000
62	3.410256	3.615385	4.025641	4.076923
63	3.833333	3.555556	4.111111	4.388889
64	2.600000	3.400000	4.000000	4.600000
65	4.000000	3.000000	4.250000	4.250000
66	3.616438	3.657534	4.068493	4.205479
67	4.000000	3.541667	4.291667	4.375000
68	3.727273	3.636364	3.818182	4.300000
69	3.800000	3.825000	4.075000	4.500000
70	4.500000	4.500000	4.500000	4.500000
71	3.333333	4.000000	4.333333	4.333333
72	3.704545	3.409091	3.860909	4.363636
73	3.685714	3.742857	4.057143	4.371429
74	4.000000	4.000000	4.200000	4.100000
75	3.950000	3.800000	4.000000	4.150000
76	3.500000	3.125000	4.000000	4.625000
77	4.000000	4.000000	4.000000	4.000000
78	4.000000	4.000000	4.000000	4.000000
79	2.000000	4.000000	4.000000	4.500000
80	3.333333	2.333333	4.666667	4.333333
81	3.000000	2.000000	4.000000	5.000000
82	4.000000	4.000000	4.500000	4.500000
83	4.000000	3.142857	4.142857	4.428571
84	3.833333	3.833333	4.333333	5.000000
85	4.200000	3.200000	4.600000	4.600000
86	4.333333	4.166667	4.666667	4.666667
87	3.857143	3.714286	4.285714	4.714286

88	0.0	4.000000	4.000000	5.000000
89	3.681818	3.681818	4.045455	4.136364
90	4.230769	3.923077	4.000000	4.384615
91	3.636364	3.636364	3.909091	4.363636
92	3.833333	3.583333	4.164667	4.583333
93	3.664667	3.833333	3.833333	4.333333
94	4.000000	4.000000	4.000000	4.000000
95	4.000000	4.000000	4.000000	4.000000
96	3.904762	3.283714	3.619048	3.904762
97	4.142857	3.714286	3.857143	4.428571
98	3.333333	3.333333	4.000000	4.333333
99	4.000000	4.000000	4.000000	4.000000
100	4.000000	4.000000	4.000000	4.000000

----- OBSERVED CELL MEANS --- ROW' --- COLUMNS ARE VARIABLES

	11 EZCOMP	12 CLRPIG	13 NOTAMS	14 HRLJP
101	4.000000	2.333333	3.666667	4.000000
102	3.664234	3.394161	3.948905	4.306569
103	3.857143	3.680472	4.042017	4.453782
104	3.935484	3.516129	3.870968	4.516129
105	3.950000	3.650000	4.130000	4.430000
106	3.714286	3.571429	3.828571	4.238095
107	3.913043	3.606496	4.000000	4.391304
108	3.664667	2.933333	3.833333	4.444667
109	4.000000	4.200000	4.200000	4.500000
110	3.731707	3.536585	4.012195	4.361463
111	3.951220	3.463415	4.000000	4.524390
112	3.894737	3.315789	3.736842	4.631379
113	3.736842	3.596491	4.017544	4.578947
114	3.727273	3.327273	3.745455	3.836364
115	4.000000	3.652174	4.043478	4.260870
116	3.571429	3.000000	4.428571	4.571429
117	3.714286	3.500000	4.071429	4.642857
118	3.000000	3.357143	4.000000	4.214286
119	4.000000	4.000000	4.000000	4.600000
120	3.400000	3.600000	4.500000	4.200000
121	3.555556	3.664667	4.333333	4.333333
122	3.000000	2.000000	4.000000	4.000000
123	3.581235	3.235294	4.117647	4.352941
124	3.400000	3.600000	4.200000	4.400000
125	4.000000	3.750000	3.750000	4.750000
126	4.500000	3.750000	4.250000	4.250000
127	3.925926	3.592593	4.037037	4.259259
128	3.933333	3.844444	4.222222	4.555556
129	3.400000	4.000000	4.200000	4.600000
130	3.812500	3.825000	4.312500	4.687500
131	5.000000	5.000000	5.000000	5.000000
132	3.315789	3.900000	3.473684	4.000000
133	4.050000	3.900000	4.150000	4.400000
134	3.750000	3.250000	4.000000	4.500000
135	3.833333	3.583333	4.083333	4.583333
136	3.653846	3.574923	4.192308	4.61538
137	4.000000	3.764574	3.947368	4.421053
138	3.875000	3.625000	4.000000	4.125000
139	3.750000	3.500000	3.937500	4.375000



140	3.857143	3.142857	4.000000	4.428571
141	3.666667	4.000000	3.666667	4.666667
142	3.400000	3.600000	4.000000	4.000000
143	3.571429	4.285714	4.285714	4.571429
144	3.611755	4.029412	4.250000	4.250000
145	3.960926	3.631379	4.013158	4.539474
146	4.000000	3.500000	3.928571	4.071429
147	3.935897	3.769231	3.923077	4.589744
148	4.000000	3.500000	4.000000	4.000000
149	4.000000	3.666667	4.000000	4.666667
150	3.166667	3.333333	3.527778	3.916667

OBSERVED CELL MEANS --- ROWS ARE CELLS-COLUMNS ARE VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTAMS	14 HRLUP
151	3.809524	3.666667	3.857143	4.333333
152	3.812500	3.875000	4.187500	4.687500
153	3.846154	3.692308	4.025641	4.461538
154	3.333333	3.166667	3.500000	3.333333
155	4.000000	4.000000	4.000000	5.000000

OBSERVED CELL STD DEVS---ROWS ARE CELLS-COLUMNS VARIABLES

	1 ANTWFO	2 ACCNFO	3 CONSAT	4 ORDSAT	5 SJPDEC	6 MESLEN	7 EZUND	8 LDNYZ	9 SPKGRA	10 PMPCOM
1	1.431297	1.500000	1.481366	1.581139	1.500000	1.732051	1.691482	1.481366	1.391941	1.615893
2	0.353553	0.0	0.0	1.414214	0.707107	0.0	0.0	0.0	0.353553	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.707107	2.121320	2.121320	2.121320	2.121320	0.0	0.0	0.707107	2.828427	0.0
5	0.664580	0.408248	0.632456	1.549193	0.752773	0.491596	0.632455	0.408248	1.549193	0.408248
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.583333	1.333333	1.333333	0.0	0.891917	0.485913	0.781736	1.092906	0.0	0.440959
8	2.466441	0.0	0.0	1.154701	0.577350	0.763763	0.0	1.154701	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.763763	0.577350	0.0	1.154701	1.732051	0.577350	1.732051	0.577350	0.577350	0.577350
11	0.577350	0.0	0.0	1.154701	1.527525	0.208675	0.577350	1.732051	0.0	1.154701
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	1.071152	0.480384	0.554700	0.277350	0.849718	1.107955	0.751058	0.554700	1.120897	0.877058
15	0.491596	0.0	0.0	0.0	1.248809	0.516398	0.408248	0.983192	0.0	1.543193
16	0.547723	0.894427	0.894427	0.0	0.336863	0.547723	1.093445	0.000000	0.547723	1.341641
17	0.497214	0.737865	0.674949	1.251666	0.699206	0.685160	0.674949	0.674949	1.259296	1.135292
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.534094	0.438529	0.725011	0.408248	0.898717	1.087517	0.725011	0.599145	1.102154	0.926909
24	0.534522	0.0	0.0	0.786796	0.377964	0.534522	0.786796	1.069045	0.748013	0.0
25	0.912871	0.577350	0.0	0.0	0.957427	1.732051	2.380476	1.732051	1.732051	0.500000
26	0.615728	1.150728	1.157858	1.081818	0.841897	0.508175	0.928783	1.251373	1.174363	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1	2	3	4	5	6	7	8	9	10
	ANTNED	ACCNED	CONSAT	DRDSAT	SUPDEC	MESLEN	EZUNDO	LOMYZ	SPKGRA	PMPCON
28	1.359231	1.656094	1.320094	1.328422	1.416811	1.319481	1.277636	1.178958	1.389297	1.366619
29	0.452257	0.687552	0.301511	0.301511	1.035725	0.410100	0.774597	0.404520	0.583874	1.483240
30	0.694427	0.408248	0.983192	0.408248	0.752773	0.752773	0.408248	0.408248	0.408248	0.983192
31	0.500000	0.0	0.0	0.0	2.081666	0.377350	0.377350	0.377350	0.0	1.527525
32	1.017166	0.903189	0.843754	0.914705	1.024902	1.031778	0.865800	0.865800	0.987360	0.937528
33	0.687947	0.725730	0.971972	0.718821	1.312442	0.842355	0.842355	0.968789	0.776015	0.931088
34	0.627146	0.456500	0.528693	0.708112	1.101206	0.373705	1.083958	1.100865	1.009996	0.905370
35	0.908833	0.453447	0.838859	0.793283	1.043810	0.721931	0.949507	0.949507	0.486304	1.135330
36	1.381139	1.463850	1.496026	1.511858	1.496026	1.511858	1.511858	1.511858	1.496026	1.511858
37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	0.690909	0.800709	0.700051	0.785184	1.344952	1.317178	1.057180	0.933395	0.891420	1.235042
52	1.210487	0.333333	0.666667	1.364225	1.092906	1.672905	0.707107	0.881917	1.250000	1.236033
53	0.683368	0.819969	1.321443	0.768706	0.951474	0.443293	0.847233	0.969223	0.633279	1.339227
54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	1.426301	1.074951	1.154888	0.914352	0.879049	1.343362	1.113669	1.031800	1.419598	1.242118
56	0.331610	0.994053	0.457697	0.518435	0.884852	0.886883	1.117592	1.063219	0.637281	1.013740
57	1.233870	1.315387	1.120877	1.139400	1.255756	0.518873	1.260850	1.165751	1.450644	1.198289
58	1.019119	0.785905	0.600245	0.799816	0.752467	1.345825	0.943242	1.121318	0.399908	0.919559
59	0.500000	0.577350	0.0	1.000000	0.577350	0.500000	0.577350	0.577350	0.577350	0.577350
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62	1.228046	0.995943	1.024662	0.965673	1.072286	1.295731	1.038399	1.252258	1.545858	1.484513
63	1.111438	0.985184	1.526455	0.342997	0.697802	1.130750	0.416176	0.471405	1.114374	1.263283
64	0.758288	0.836660	0.567723	0.567723	0.836660	0.447214	0.447214	1.788854	0.447214	1.303840
65	0.500000	0.500000	0.0	0.0	0.816497	0.500000	0.816497	0.0	0.0	1.732051
66	0.955587	0.908902	1.130893	0.922408	0.900913	0.701637	1.156183	0.803105	0.848548	0.892212
67	0.805566	0.933992	1.355239	1.050585	1.071678	0.955051	1.074981	1.044234	1.164591	1.211446
68	0.594337	0.809040	0.447214	0.301511	0.687552	0.452267	0.700449	1.272078	0.350325	1.348400
69	0.761135	0.816104	0.833590	0.525625	0.767530	0.619657	0.776250	0.697523	0.490944	0.784465
70	0.353553	0.707107	0.0	0.0	1.414214	0.0	0.0	0.0	0.0	0.771737
71	0.288475	0.0	0.0	0.0	1.827525	0.288475	0.577350	0.577350	0.0	1.527525
72	1.031225	0.925045	0.975384	0.758322	1.126377	0.563436	0.803007	0.838742	0.555103	1.275066
73	1.377755	0.472789	0.833137	0.758149	0.785370	1.027357	0.700540	0.968409	0.937553	1.133216
74	0.625833	0.527046	1.234911	1.234911	0.727107	0.459468	0.737865	1.766981	0.737865	0.966092
75	0.958000	0.664505	1.089423	0.745160	0.786598	0.723206	0.788069	1.069924	0.456831	1.151658
76	0.623212	0.817549	1.597990	0.353553	0.755929	0.495516	0.462910	0.0	0.0	0.925820
77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79	0.707107	0.707107	0.0	0.0	0.707107	0.0	0.0	1.414214	0.707107	0.707107

OBSERVED CELL STD DEVS--RMS ARE CELLS--COLUMNS VARIABLES



	1	2	3	4	5	6	7	8	9	10
132	1.052705	1.367971	1.218762	1.218762	1.249561	1.185315	1.454977	1.460994	1.297208	1.397575
133	0.544711	0.786398	0.694427	0.786069	1.056309	0.598243	1.280743	1.142481	1.223401	1.371707
134	0.250000	0.500000	2.000000	0.957427	0.957427	1.683251	0.937427	0.0	0.250000	0.3
135	0.541812	0.792961	0.797724	0.996205	0.914534	0.498102	0.904534	0.674822	0.476731	1.138180
136	0.878134	0.874423	1.207668	0.895287	0.711445	1.038675	0.961569	0.674822	0.451067	1.002305
137	0.797474	0.501460	1.056863	0.933459	0.904828	1.267967	0.567131	1.172292	0.561951	0.458831
138	0.728869	0.744024	1.388730	0.707107	1.135229	1.425219	1.035098	1.195229	0.651235	0.991031
139	0.498957	0.577350	0.655108	0.543906	0.806226	0.436606	0.750000	0.341565	0.602080	0.442531
140	0.731925	0.534522	1.253566	0.487950	1.360131	1.367131	1.718249	1.718249	1.453850	1.573592
141	0.577350	0.577350	0.0	0.577350	0.0	0.577350	1.154701	1.154701	0.577350	1.732051
142	0.500000	0.707107	1.788854	0.447214	0.447214	0.0	1.395445	1.095445	0.547723	1.516575
143	0.408248	0.786796	0.377964	0.377964	0.899735	0.487950	1.380131	1.345185	0.786796	1.463850
144	0.858388	0.988965	0.935473	0.754268	0.985407	0.964586	0.999122	0.930886	0.900078	0.878356
145	0.805246	0.558864	0.809917	0.762728	0.816942	1.024160	0.746454	0.885259	0.644953	0.754402
146	1.059364	0.841897	0.744944	0.534522	0.940769	0.535451	0.841897	0.611250	0.456937	0.730046
147	0.925822	0.759116	0.898902	0.771193	1.045066	0.909330	0.423768	0.672593	0.827435	0.722288
148	0.447214	1.649359	0.894427	0.707107	1.227455	0.273861	0.547723	0.447214	0.353553	1.095445
149	0.763763	0.577350	0.0	0.577350	0.577350	1.000000	1.154701	1.154701	0.577350	1.577350
150	1.278840	1.256596	1.414214	1.275844	1.165646	1.441656	1.293451	1.253250	1.477544	1.319975

-----OBSERVED CELL STD DEVS---ROWS ARE CELLS-COLUMNS VARIABLES-----

	11	12	13	14	15	16	17	18	19	20
151	0.833130	0.446621	0.870540	0.484367	0.967833	0.664777	0.862151	1.133560	0.826833	1.265324
152	0.939858	0.619139	0.250000	0.500000	0.856349	0.597739	1.258306	1.440593	1.443376	1.569235
153	0.938465	1.018718	0.985728	0.458831	1.239259	0.944624	0.998650	1.048101	0.441214	1.332152
154	1.497220	1.602082	1.602082	1.602082	1.602082	1.366260	1.731190	1.549193	1.724819	1.378405
155	0.353553	0.0	0.0	2.828427	1.414214	0.353553	0.0	0.0	0.777157	1.614214

-----OBSERVED CELL STD DEVS---ROWS ARE CELLS-COLUMNS VARIABLES-----

	11	12	13	14	15	16	17	18	19	20
1	1.394433	0.833333	1.322876	0.726483	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	2.121320	2.121320	2.121320	1.414214	0.632456	0.0	0.0	0.0	0.0	0.0
5	1.569193	0.516398	0.408248	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.666667	0.726483	0.440959	0.500000	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.577350	0.0	2.081666	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	1.732051	1.527525	1.154701	0.577350	1.154701	1.154701	1.154701	1.154701	1.154701	1.154701
12	0.0	1.000000	0.577350	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.554700	0.767948	1.214232	0.493548	0.0	0.0	0.0	0.0	0.0	0.0
16	1.211050	0.516398	0.408248	0.547723	0.0	0.0	0.0	0.0	0.0	0.0
17	0.894427	0.894427	0.707107	0.547723	0.0	0.0	0.0	0.0	0.0	0.0
18	0.849837	0.674949	0.471405	1.059350	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0







72	0.667503	0.871198	0.963115	0.574291
73	0.932152	0.700540	0.833940	3.689660
74	0.567646	0.646667	0.421637	0.567646
75	0.825378	0.767772	0.794719	0.875094
76	1.414214	0.991031	0.755929	0.744024
77	0.0	0.0	0.0	0.0
78	0.0	0.0	0.0	0.0
79	2.828627	0.0	0.0	0.707107
80	1.154701	1.527525	0.577350	3.577350
81	0.0	0.0	0.0	0.0
82	0.0	0.0	0.0	0.707107
83	0.0	1.573592	0.590066	3.786796
84	0.408248	0.408248	0.516398	0.0
85	0.47214	1.095445	0.547723	0.547723
86	0.516398	0.983192	0.516398	0.516398
87	0.377964	0.735929	0.487950	3.487950
88	0.0	0.0	0.0	0.0
89	0.779888	0.646335	0.575473	0.710161
90	0.438529	0.640513	1.000000	3.650444
91	0.674200	0.674200	1.044666	0.506525
92	0.717741	0.668558	0.389249	0.514929
93	0.516398	0.438248	0.408248	0.816497
94	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0
96	0.303793	1.055597	1.244033	1.044259
97	0.690066	0.951190	1.365195	3.534522
98	0.577350	1.154701	0.0	0.577350
99	0.0	0.0	0.0	0.447214
100	0.0	0.0	0.0	3.0

----- OBSERVED CELL STD DEVS--ROWS ARE CELLS--COLUMNS VARIABLES -----

	11 E1COMP	12 CLNPIC	13 NOTAMS	14 HRLUP
101	0.0	0.577350	1.527525	0.0
102	1.072911	1.066589	0.858748	3.873784
103	0.805350	0.780404	0.867443	0.799872
104	0.813958	0.926318	0.991361	0.625618
105	0.687184	0.808728	0.530135	3.863933
106	0.969931	0.991251	1.045148	0.878178
107	0.733178	0.742718	0.674200	0.583027
108	0.816497	1.329162	0.983192	0.516398
109	0.816497	0.421637	0.632456	0.527046
110	1.042892	0.971128	0.728501	0.945619
111	0.846022	0.877639	0.902671	0.526475
112	0.458831	1.002920	0.991189	3.495595
113	1.110443	0.903557	0.834335	0.498117
114	0.921695	0.963300	0.966440	1.316050
115	0.301511	0.714060	0.562322	0.810016
116	1.133893	1.414214	0.534522	3.534522
117	0.726273	0.854850	0.267261	0.633324
118	1.467599	0.841897	0.392232	0.425815
119	0.0	0.0	0.0	3.547723
120	1.341641	1.140175	0.547723	0.447214
121	1.333333	0.866025	0.500000	0.500000
122	0.0	0.0	0.0	0.0
123	1.121318	1.147247	0.500245	3.492592

124	0.89427	0.447214	0.836660	0.89427
125	0.0	0.500000	0.500000	0.500000
126	0.577350	0.937427	0.500000	0.937427
127	0.828619	1.009922	1.018350	1.022538
128	0.863397	0.767391	0.765414	0.823610
129	1.341641	0.707107	0.447214	0.547723
130	0.750000	0.718795	0.873212	0.678714
131	0.0	0.0	0.0	0.0
132	1.416280	1.290934	1.348597	1.490712
133	0.223607	0.640723	0.489350	0.882580
134	0.500000	0.500000	0.0	0.577350
135	0.834847	0.668558	0.514929	0.514929
136	1.164210	1.026570	0.491466	0.581774
137	0.0	0.418854	1.025978	0.507257
138	0.834523	0.744024	0.755929	0.640870
139	0.683130	0.816497	0.771902	0.500000
140	0.377944	1.049045	0.577350	1.786796
141	0.577350	0.0	0.577350	0.577350
142	1.341641	1.673320	0.0	0.547723
143	0.0	0.786796	0.534522	0.534522
144	0.940154	0.846875	0.545554	0.631865
145	0.575981	0.830134	0.720989	0.720015
146	0.392232	0.940540	0.615728	0.997249
147	0.795111	0.512301	0.679366	0.495064
148	0.707107	0.894427	0.547723	0.447214
149	0.0	0.577350	0.0	0.577350
150	1.684751	1.218899	1.482972	1.500000

----- OBSERVED CELL STD DEVS--ROWS ARE CELLS--COLUMNS VARIABLES -----

	11	12	13	14
	EZCOMP	CLRPIC	NOTAMS	HRLUP
151	0.803592	0.845841	0.843090	0.721336
152	1.223043	0.718795	0.555108	0.478714
153	0.874747	0.731036	0.931529	0.505035
154	1.751190	1.602082	1.870829	2.065591
155	0.0	0.0	1.414214	0.0

PAGE 4

----- OBSERVED COMBINED MEANS -----

FACTORS 1 (1/RATING)

LEVEL 1  
N = 2644.

MEANS  
-----  
ANTNFO = 3.593  
MESLEN = 3.446  
EZCOMP = 3.734

CONSAT = 3.755  
LONVZ = 3.658  
NJTAMS = 4.065

ORDSAT = 3.694  
SPKGRA = 3.584  
HRLUP = 4.327

SUPDEC = 3.533  
PMPCON = 3.649

LEVEL 2  
N = 1654.

MEANS

CONSAT = 3.677

ORDSAT = 3.718

SUPDEC = 3.294

----- MESLEN = 3.372 EZJND = 3.748 LONYZ = 3.661 SPKGRA = 3.602 PMPCON = 3.719  
EZCOMP = 3.797 CLRPTC = 3.568 NOTAMS = 4.000 HRLJP = 4.387

FACTORS 2 (ENGINES)

LEVEL 1  
N = 1122.

MEANS  
-----  
ANTNFO = 3.527 ACCNFO = 3.591 CONSAT = 3.690 ORDSAT = 3.705 SUPDEC = 3.335  
MESLEN = 3.368 EZJND = 3.732 LONYZ = 3.666 SPKGRA = 3.586 PMPCON = 3.696  
EZCOMP = 3.795 CLRPTC = 3.568 NOTAMS = 4.002 HRLJP = 4.365

LEVEL 2  
N = 3176.

MEANS  
-----  
ANTNFO = 3.592 ACCNFO = 3.664 CONSAT = 3.737 ORDSAT = 3.703 SUPDEC = 3.478  
MESLEN = 3.435 EZJND = 3.720 LONYZ = 3.657 SPKGRA = 3.593 PMPCON = 3.669  
EZCOMP = 3.745 CLRPTC = 3.600 NOTAMS = 4.054 HRLJP = 4.345

FACTORS 3 (TOTALFLY)

LEVEL 1  
N = 2327.

MEANS  
-----  
ANTNFO = 3.633 ACCNFO = 3.675 CONSAT = 3.764 ORDSAT = 3.675 SUPDEC = 3.483  
MESLEN = 3.443 EZJND = 3.716 LONYZ = 3.684 SPKGRA = 3.582 PMPCON = 3.680  
EZCOMP = 3.740 CLRPTC = 3.588 NOTAMS = 4.082 HRLJP = 4.366

4-21

LEVEL 2  
N = 1971.

MEANS  
-----  
ANTNFO = 3.508 ACCNFO = 3.609 CONSAT = 3.679 ORDSAT = 3.737 SUPDEC = 3.392  
MESLEN = 3.388 EZJND = 3.743 LONYZ = 3.666 SPKGRA = 3.602 PMPCON = 3.672  
EZCOMP = 3.779 CLRPTC = 3.584 NOTAMS = 3.991 HRLJP = 4.332

FACTORS 4 (ANNUALFLY)

LEVEL 1  
N = 1757.

MEANS  
-----  
ANTNFO = 3.583 ACCNFO = 3.627 CONSAT = 3.748 ORDSAT = 3.676 SUPDEC = 3.521  
MESLEN = 3.416 EZJND = 3.740 LONYZ = 3.682 SPKGRA = 3.588 PMPCON = 3.664  
EZCOMP = 3.692 CLRPTC = 3.563 NOTAMS = 4.027 HRLJP = 4.283

LEVEL 2  
N = 2541.

MEANS  
-----  
ANTNFO = 3.570 ACCNFO = 3.658 CONSAT = 3.709 ORDSAT = 3.722 SUPDEC = 3.386  
MESLEN = 3.419 EZJND = 3.721 LONYZ = 3.643 SPKGRA = 3.614 PMPCON = 3.685  
EZCOMP = 3.804 CLRPTC = 3.603 NOTAMS = 4.049 HRLJP = 4.397

FACTORS 5 (GADO)

LEVEL 1  
N = 2695.

MEANS  
-----  
AMTINFO = 3.537  
MESLEN = 3.438  
EZCOMP = 3.782

LEVEL 2  
N = 1603.

MEANS  
-----  
AMTINFO = 3.522  
MESLEN = 3.384  
EZCOMP = 3.719

ACCINFO = 3.664  
EZJND = 3.739  
CLRPIG = 3.608

CONSAT = 3.747  
LONVZ = 3.666  
NOTAMS = 4.055

ORDSAT = 3.708  
SPKGRA = 3.608  
HRLUP = 4.376

SUPDEC = 3.468  
PMPCON = 3.865

MEANS  
-----  
AMTINFO = 3.522  
MESLEN = 3.384  
EZCOMP = 3.719

ACCINFO = 3.613  
EZJND = 3.711  
CLRPIG = 3.550

CONSAT = 3.688  
LONVZ = 3.658  
NOTAMS = 4.016

ORDSAT = 3.696  
SPKGRA = 3.562  
HRLUP = 4.307

SUPDEC = 3.396  
PMPCON = 3.359

FACTORS 6 (POWERPNT)

LEVEL 1  
N = 4055.

MEANS  
-----  
AMTINFO = 3.582  
MESLEN = 3.420  
EZCOMP = 3.756

ACCINFO = 3.648  
EZJND = 3.727  
CLRPIG = 3.590

CONSAT = 3.726  
LONVZ = 3.660  
NOTAMS = 4.046

ORDSAT = 3.704  
SPKGRA = 3.595  
HRLUP = 4.359

SUPDEC = 3.444  
PMPCON = 3.676

LEVEL 2  
N = 263.

MEANS  
-----  
AMTINFO = 3.459  
MESLEN = 3.383  
EZCOMP = 3.794

ACCINFO = 3.597  
EZJND = 3.749  
CLRPIG = 3.531

CONSAT = 3.716  
LONVZ = 3.650  
NOTAMS = 3.938

ORDSAT = 3.700  
SPKGRA = 3.519  
HRLUP = 4.198

SUPDEC = 3.383  
PMPCON = 3.687

FACTORS 7 (OLD USE)

LEVEL 1  
N = 3346.

MEANS  
-----  
AMTINFO = 3.557  
MESLEN = 3.393  
EZCOMP = 3.734

ACCINFO = 3.642  
EZJND = 3.724  
CLRPIG = 3.569

CONSAT = 3.718  
LONVZ = 3.665  
NOTAMS = 4.027

ORDSAT = 3.680  
SPKGRA = 3.570  
HRLUP = 4.316

SUPDEC = 3.447  
PMPCON = 3.665

LEVEL 2  
N = 952.

MEANS  
-----  
AMTINFO = 3.606  
MESLEN = 3.506  
EZCOMP = 3.845

ACCINFO = 3.655  
EZJND = 3.746  
CLRPIG = 3.649

CONSAT = 3.751  
LONVZ = 3.640  
NOTAMS = 4.086

ORDSAT = 3.786  
SPKGRA = 3.586  
HRLUP = 4.468

SUPDEC = 3.421  
PMPCON = 3.717

FACTORS 8 (NEW USE)

LEVEL 1  
N = 2247.

MEANS  
-----  
AMTINFO = 3.484  
MESLEN = 3.320  
EZCOMP = 3.655

ACCINFO = 3.568  
EZJND = 3.711  
CLRPIG = 3.514

CONSAT = 3.662  
LONVZ = 3.657  
NOTAMS = 3.959

ORDSAT = 3.650  
SPKGRA = 3.514  
HRLUP = 4.239

SUPDEC = 3.405  
PMPCON = 3.519

1	2	3	4	5	6	7	8	9	10
ANTINFO	ACCINFO	CONSAT	OROSAT	SUPDEC	WESLEV	ELUND	LOWYZ	SPKGRA	PHMCON



	1	2	3	4	5	6	7	8	9	10
1 ARTNFO	1.000000									
2 ACCNFO	0.236870	1.000000								
3 CONSAT	0.328788	0.301352	1.000000							
4 ORDSAT	0.286057	0.250606	0.379193	1.000000						
5 SUPDEC	0.187214	0.214571	0.326925	0.280126	1.000000					
6 MESLEN	0.489982	0.193203	0.296545	0.318815	0.185906	1.000000				
7 EZJND	0.212131	0.244945	0.275484	0.288212	0.137633	0.239373	1.000000			
8 LONJZ	0.227027	0.221334	0.250874	0.266817	0.1170690	0.475491	0.582777	1.000000		
9 SPKSA	0.374359	0.220771	0.255048	0.268817	0.1170690	0.475491	0.582777	0.330308	1.000000	
10 PHPCON	0.164651	0.149567	0.195764	0.203782	0.1170690	0.475491	0.582777	0.330308	0.258890	1.000000
11 EZCOMP	0.257751	0.236478	0.304342	0.322861	0.213710	0.179964	0.237462	0.258890	0.311224	0.274610
12 CLRPIG	0.292073	0.306172	0.390466	0.392920	0.401210	0.289441	0.290595	0.231942	0.241537	0.253343
13 NOTANS	0.246544	0.205074	0.237679	0.264507	0.193655	0.239493	0.217099	0.190466	0.227234	0.193932
14 HRLJP	0.149837	0.131058	0.183918	0.197465	0.107911	0.159155	0.170228	0.145400	0.172568	0.183970

	11	12	13	14
11 EZCOMP	1.000000			
12 CLRPIG	0.417410	1.000000		
13 NOTANS	0.216442	0.299856	1.000000	
14 HRLJP	0.235974	0.221392	0.391785	1.000000

VARIABLE	VARIANCE (ERROR MEAN SQUARES)	STANDARD DEVIATION
1 ARTNFO	0.813518	0.9003
2 ACCNFO	0.748294	0.8650
3 CONSAT	0.787369	0.8873
4 ORDSAT	0.709042	0.8420
5 SUPDEC	1.216133	1.0422
6 MESLEN	0.918145	0.9582
7 EZJND	0.873124	0.9344
8 LONJZ	0.946157	0.9717
9 SPKSA	0.835072	0.9138
10 PHPCON	1.124784	1.0605
11 EZCOMP	0.859920	0.9273
12 CLRPIG	0.812446	0.9014
13 NOTANS	0.678339	0.8235
14 HRLJP	0.619454	0.7871

D.F. = 4289.

ERROR TERM FOR ANALYSIS OF VARIANCE (RESIDUAL)

LEAST SQUARE ESTIMATES OF EFFECTS --- EFFECTS & VARIABLES

1 2 3 4 5 6 7 8 9 10

ARTFJ	ACCNEO	CONSAT	ORDSAT	SUPDEC	WESLEN	EZUND	LOWYZ	SPKGRA	PMPCON
1	3.565000	3.432624	3.717049	3.449100	3.454031	3.744823	3.650369	3.573853	3.553324
2	-0.012639	0.009449	0.014976	0.132331	0.044990	-0.012025	-0.003577	0.004288	-0.051156
3	0.013933	-0.020574	-0.019598	-0.002819	-0.006008	0.010706	0.005397	-0.006782	0.013304
4	0.078836	0.028968	-0.037126	-0.048915	0.013785	0.007980	-0.014614	-0.034471	0.036335
5	0.003149	-0.019010	-0.007757	0.045040	-0.000281	0.024244	0.027800	-0.015757	0.000657
6	0.037872	0.022499	0.005252	0.031675	0.032421	0.014237	0.008373	0.020607	0.253632
7	0.011137	-0.013741	-0.003749	0.005274	-0.043147	0.005829	0.007887	0.025505	-0.035523
8	-0.004402	0.008344	-0.010651	0.034786	-0.040818	-0.001578	0.018013	0.025312	-0.005537
9	-0.098441	-0.081483	-0.072893	-0.046820	-0.100086	-0.020702	-0.010153	-0.071261	-0.052757

II	II	II	II	II	II	II	II	II	II
EICOMP	CLRPIC	NOTAMS	HRUP	HRUP	HRUP	HRUP	HRUP	HRUP	HRUP
1	3.789751	3.578062	4.029787	4.315039	4.315039	4.315039	4.315039	4.315039	4.315039
2	-0.005129	0.026692	0.026013	-0.036648	-0.036648	-0.036648	-0.036648	-0.036648	-0.036648
3	0.012647	-0.023847	0.016087	0.022541	0.022541	0.022541	0.022541	0.022541	0.022541
4	0.013920	-0.011744	0.050420	0.072019	0.072019	0.072019	0.072019	0.072019	0.072019
5	-0.033967	-0.016350	-0.018654	-0.046543	-0.046543	-0.046543	-0.046543	-0.046543	-0.046543
6	0.031747	0.026379	0.015599	0.031276	0.031276	0.031276	0.031276	0.031276	0.031276
7	-0.024518	-0.001938	0.016601	0.071304	0.071304	0.071304	0.071304	0.071304	0.071304
8	-0.024311	-0.023070	-0.018568	-0.048432	-0.048432	-0.048432	-0.048432	-0.048432	-0.048432
9	-0.096491	-0.070134	-0.092736	-0.094908	-0.094908	-0.094908	-0.094908	-0.094908	-0.094908

ESTIMATES OF EFFECTS IN STANDARD DEVIATION UNITS-EFF X VARS

ARTFJ	ACCNEO	CONSAT	ORDSAT	SUPDEC	WESLEN	EZUND	LOWYZ	SPKGRA	PMPCON
1	3.959845	4.199372	4.238959	4.414306	3.309514	4.007692	3.756771	3.910882	3.454723
2	-0.014039	0.010923	0.037453	0.017785	0.134364	0.069533	-0.003681	0.004670	-0.048235
3	0.012144	-0.023784	0.019936	-0.023274	-0.002705	0.011457	0.005555	-0.037421	0.012545
4	0.087557	0.033487	0.339810	-0.044090	-0.046935	0.014386	-0.015040	-0.034893	0.338287
5	0.003498	-0.021976	0.017713	0.009212	0.343217	0.008540	0.028611	-0.017243	0.000619
6	0.042067	0.026009	0.030350	0.006237	0.030393	0.024255	0.008617	0.022551	0.239151
7	0.012371	-0.015885	-0.042255	-0.006263	-0.041401	-0.034627	-0.006238	0.008117	-0.333593
8	-0.005111	0.009646	-0.012023	-0.041311	0.035813	-0.042599	-0.016899	-0.027700	-0.005221
9	-0.109344	-0.094426	-0.082148	-0.055602	-0.056485	-0.022155	-0.010449	-0.077981	-0.049745

II	II	II	II	II	II	II	II	II	II
EICOMP	CLRPIC	NOTAMS	HRUP	HRUP	HRUP	HRUP	HRUP	HRUP	HRUP
1	4.086795	3.969636	4.832814	5.482520	5.482520	5.482520	5.482520	5.482520	5.482520
2	-0.005531	0.029614	0.031584	-0.046563	-0.046563	-0.046563	-0.046563	-0.046563	-0.046563
3	0.013638	-0.026457	0.019508	0.028640	0.028640	0.028640	0.028640	0.028640	0.028640
4	0.015011	-0.013029	0.061218	0.091504	0.091504	0.091504	0.091504	0.091504	0.091504
5	-0.036608	-0.018139	-0.022649	-0.059136	-0.059136	-0.059136	-0.059136	-0.059136	-0.059136
6	0.034235	0.029266	0.018939	0.039738	0.039738	0.039738	0.039738	0.039738	0.039738
7	-0.026440	-0.002150	0.020156	0.090596	0.090596	0.090596	0.090596	0.090596	0.090596

8 -0.026217 -0.025594 -0.022544 -0.061536  
9 -0.104053 -0.077810 -0.100453 -0.120586

STANDARD ERRORS OF LEAST-SQUARES ESTIMATES--EFFECTS BY VARS

	1	2	3	4	5	6	7
	AMTFO	ACCNFO	CONSAT	DRSAT	SUPDEC	MESLEN	EZUND
1	3.274658D-02	3.147410D-02	3.228541D-02	3.363769D-02	3.791917D-02	3.486365D-02	3.399815D-02
2	1.963303D-02	1.886436D-02	1.935043D-02	1.836293D-02	2.272720D-02	2.089591D-02	2.037718D-02
3	2.054100D-02	1.975199D-02	2.226525D-02	1.923086D-02	2.380150D-02	2.1188318D-02	2.134032D-02
4	1.859300D-02	1.784505D-02	1.832551D-02	1.719018D-02	2.152334D-02	1.978899D-02	1.929730D-02
5	1.571475D-02	1.509949D-02	1.548871D-02	1.469813D-02	1.811470D-02	1.672543D-02	1.510399D-02
6	1.424913D-02	1.369123D-02	1.404417D-02	1.327330D-02	1.649486D-02	1.516571D-02	1.478922D-02
7	3.164214D-02	3.060233D-02	3.118601D-02	2.939623D-02	3.662793D-02	3.367646D-02	3.284043D-02
8	1.749198D-02	1.680713D-02	1.724037D-02	1.636039D-02	2.524880D-02	1.861715D-02	1.815498D-02
9	1.453181D-02	1.396286D-02	1.432278D-02	1.359171D-02	1.882209D-02	1.546657D-02	1.508251D-02

	8	9	10	11	12	13	14
	LMNYZ	SPKGRA	PNPCOM	EZCAMP	CLNPIC	NOTAMS	HLRUP
1	3.535406D-02	3.324904D-02	3.858762D-02	3.374009D-02	3.279552D-02	2.996682D-02	2.863662D-02
2	2.118966D-02	1.992820D-02	2.312793D-02	2.022231D-02	1.965637D-02	1.796091D-02	1.716369D-02
3	2.213141D-02	2.087211D-02	2.422109D-02	2.117834D-02	2.058844D-02	1.800989D-02	1.797494D-02
4	2.006736D-02	1.887253D-02	2.190276D-02	1.915125D-02	1.861510D-02	1.700950D-02	1.625446D-02
5	1.696087D-02	1.595101D-02	1.851215D-02	1.618658D-02	1.573343D-02	1.437598D-02	1.373823D-02
6	1.537904D-02	1.446335D-02	1.678564D-02	1.467896D-02	1.426807D-02	1.303535D-02	1.243595D-02
7	3.415017D-02	3.211583D-02	3.727362D-02	3.291150D-02	3.167875D-02	2.894637D-02	2.768147D-02
8	1.887903D-02	1.775495D-02	2.060575D-02	1.801710D-02	1.751277D-02	1.600225D-02	1.529193D-02
9	1.568413D-02	1.475228D-02	1.711864D-02	1.496812D-02	1.454908D-02	1.329419D-02	1.279407D-02

LEAST-SQUARES ESTIMATES AS T-STATISTICS - EFFECTS X VARS

	1	2	3	4	5	6	7	8	9	10
	AMTFO	ACCNFO	CONSAT	DRSAT	SUPDEC	MESLEN	EZUND	LMNYZ	SPKGRA	PNPCOM
1	108.8331	115.4163	116.5046	121.3236	90.9593	99.0726	110.1479	103.2519	107.4874	94.9502
2	-0.4437	0.5009	1.7174	0.8155	6.1613	2.1531	-0.5901	-0.1688	0.2142	-2.2119
3	0.5318	-1.0414	0.8729	-1.0191	-2.1184	-0.2745	0.5017	0.2432	-0.3250	0.5493
4	4.2401	1.5215	1.8276	-2.1349	-2.3726	0.6966	-0.4135	-0.7282	-0.2369	1.8539
5	0.2004	-1.2590	1.0148	-0.5277	2.4759	-0.0168	1.4864	1.6591	-0.9879	3.3555
6	2.6579	1.6433	1.9176	0.3941	1.9203	1.5325	0.9627	0.5444	1.4248	15.1101
7	0.3520	-0.4520	-1.2023	-0.1782	-1.1780	-0.9852	-0.1775	0.2309	0.7941	-0.9557
8	-0.2631	0.4965	-0.6178	-2.1262	0.2992	-2.1925	-0.0869	0.9541	-1.4257	-3.2587
9	-6.7741	-5.8500	-5.0893	-3.4447	-3.4994	-6.4711	-1.3725	-0.6473	-4.8312	-3.0818

	EQCOMP	CLAPIC	NOTAMS	HRLJP
1	112.3222	109.1022	134.4750	150.6825
2	-0.2535	1.3580	1.4483	-2.1352
3	0.5972	-1.1484	0.8542	1.2540
4	0.7268	-0.6309	2.9442	4.4307
5	-2.0973	-1.0392	-1.2975	-3.3879
6	2.1631	1.8491	1.1366	2.5107
7	-0.7523	-0.0612	0.5735	2.5777
8	-1.3493	-1.3173	-1.1603	-3.1672
9	-6.4664	-4.8205	-5.2235	-7.4707

DEGREES OF FREEDOM = 4289.

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTNF3	ACCNF2	CONSF3	ORDSF4	SUPDEC5	WESLEN6	ELZUND7	LONVZ8	SPEGRA9	PMPCON10
1	3.591247	3.564875	3.769256	3.585917	3.518154	3.355675	3.745896	3.683495	3.500649	3.827029
2	3.788129	3.730241	3.915042	3.679556	3.635889	3.558847	3.787299	3.709801	3.643171	3.932562
3	3.600451	3.550187	3.790558	3.655488	3.526038	3.437311	3.769053	3.653470	3.581274	3.838104
4	3.797332	3.713352	3.934344	3.749128	3.623774	3.637483	3.790456	3.673776	3.693796	3.943617
5	3.568872	3.593357	3.844245	3.596465	3.604449	3.422034	3.757354	3.673721	3.449638	3.898278
6	3.765854	3.757723	3.930032	3.690104	3.722184	3.622205	3.798957	3.694028	3.592160	4.003789
7	3.578176	3.577669	3.865547	3.666036	3.592333	3.503670	3.760710	3.637696	3.500283	3.909330
8	3.775057	3.741335	4.011333	3.759676	3.710069	3.703841	3.802114	3.658002	3.642785	4.314464
9	3.515503	3.521877	3.715395	3.575413	3.572440	3.309193	3.717422	3.672749	3.459435	3.319765
10	3.712384	3.685242	3.861181	3.669052	3.572440	3.509365	3.758826	3.693055	3.601956	3.425278
11	3.524706	3.505189	3.736696	3.644985	3.442489	3.390829	3.720379	3.636724	3.510059	3.330840
12	3.721588	3.668554	3.892483	3.738624	3.560425	3.591001	3.761982	3.657030	3.652581	3.436353
13	3.493228	3.549359	3.790384	3.585961	3.541099	3.375552	3.729080	3.656976	3.408424	3.391012
14	3.690109	3.712724	3.936170	3.679600	3.658835	3.575723	3.770483	3.677282	3.550946	3.496525
15	3.502431	3.532671	3.811686	3.655332	3.528984	3.457188	3.732237	3.620951	3.459049	3.422387
16	3.699313	3.696036	3.957472	3.749172	3.646720	3.657359	3.773640	3.641257	3.601570	3.507600
17	3.584949	3.604896	3.737820	3.601430	3.428073	3.356237	3.697409	3.633894	3.532164	3.825715
18	3.781030	3.768262	3.883607	3.695069	3.545809	3.556408	3.738812	3.654200	3.674686	3.831228
19	3.594152	3.588208	3.759122	3.671001	3.415958	3.437873	3.700566	3.597869	3.582789	3.816790
20	3.791033	3.751573	3.904909	3.746441	3.533694	3.638044	3.761989	3.618175	3.725310	3.942303
21	3.542674	3.432378	3.812810	3.611978	3.514368	3.422595	3.709068	3.618120	3.491153	3.896962
22	3.755255	3.795744	3.958396	3.755617	3.522253	3.622767	3.750470	3.638427	3.623675	4.002475
23	3.571877	3.615690	3.834111	3.681549	3.502253	3.504231	3.712223	3.582095	3.531778	3.908036
24	3.768758	3.779055	3.979898	3.775189	3.619989	3.704403	3.733625	3.602431	3.674300	4.013550
25	3.509234	3.559898	3.683959	3.590926	3.364724	3.309755	3.688935	3.617148	3.490949	3.318451
26	3.706086	3.723263	3.829746	3.683566	3.492460	3.509926	3.710338	3.637455	3.633471	3.423964
27	3.518408	3.543210	3.705261	3.660498	3.352609	3.391391	3.672092	3.581123	3.541574	3.329526
28	3.715289	3.706375	3.851048	3.754137	3.470344	3.591562	3.713495	3.601429	3.684036	3.435339
29	3.486930	3.487380	3.758948	3.601474	3.451019	3.376113	3.680593	3.601375	3.439938	3.389698
30	3.683811	3.750745	3.904735	3.695113	3.568785	3.576285	3.721996	3.621681	3.502460	3.495211
31	3.496133	3.570632	3.780250	3.671046	3.438904	3.457749	3.637500	3.565350	3.490563	3.400773
32	3.693014	3.734057	3.926037	3.764685	3.556639	3.657921	3.725151	3.585656	3.633085	3.506286
33	3.433576	3.508940	3.698607	3.660169	3.415984	3.328106	3.718573	3.585656	3.509592	3.758191
34	3.630457	3.672205	3.844393	3.733719	3.528278	3.480325	3.803259	3.719229	3.652114	3.851332
35	3.442779	3.492252	3.719929	3.729781	3.433668	3.409742	3.765013	3.682597	3.560217	3.756393
36	3.639641	3.655617	3.865695	3.823380	3.721804	3.609914	3.806416	3.703003	3.702739	3.842407
37	3.411391	3.536422	3.773596	3.670717	3.702278	3.594485	3.773514	3.702949	3.458581	3.817085



38	3.408182	3.499787	3.919382	3.764356	3.820014	3.594636	3.814917	3.723255	3.601133	3.922579
39	3.420504	3.519734	3.794898	3.745028	3.650163	3.476101	3.776671	3.666924	3.509206	3.828140
40	3.617386	3.683099	3.940684	3.833928	3.807899	3.676272	3.818074	3.666924	3.651728	3.933653
41	3.357832	3.463941	3.644745	3.649665	3.522634	3.281624	3.723303	3.701977	3.468377	3.238555
42	3.354713	3.627307	3.790532	3.743305	3.670370	3.481796	3.774766	3.722283	3.610899	3.366068
43	3.367035	3.447253	3.666047	3.719237	3.540519	3.363260	3.736539	3.665952	3.519002	3.249630
44	3.563916	3.610618	3.811834	3.812876	3.658255	3.563432	3.777943	3.686258	3.651524	3.355143
45	3.335557	3.491423	3.719735	3.660213	3.638929	3.367983	3.750400	3.486204	3.417366	3.309802
46	3.532438	3.654789	3.865521	3.753852	3.758665	3.588154	3.764443	3.706510	3.559888	3.415311
47	3.344760	3.474735	3.741037	3.729765	3.626814	3.429919	3.768197	3.706510	3.477991	3.320876
48	3.561441	3.638191	3.868423	3.823424	3.744550	3.496790	3.789600	3.670484	3.610513	3.426382
49	3.427277	3.546961	3.667171	3.675882	3.525903	3.328668	3.713369	3.643122	3.541106	3.744505
50	3.624159	3.710326	3.812958	3.769322	3.643639	3.528889	3.754772	3.683428	3.683628	3.850018

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTMFO	ACCNFO	CONSAT	ORDSAT	SUPDEC	WESLEN	EZUND	LOMYZ	SPKGRA	PMPCON
51	3.436481	3.530272	3.688473	3.745254	3.513788	3.610304	3.716526	3.627096	3.591731	3.755579
52	3.633362	3.593638	3.834260	3.838893	3.631523	3.610475	3.757929	3.647402	3.734253	3.951393
53	3.405002	3.574443	3.742161	3.686230	3.612198	3.395026	3.725027	3.647348	3.490095	3.815751
54	3.601884	3.737808	3.887947	3.779869	3.723934	3.595198	3.766430	3.667654	3.632617	3.921265
55	3.414206	3.557755	3.763462	3.755802	3.600083	3.476662	3.728183	3.611323	3.507220	3.826826
56	3.611087	3.721120	3.929249	3.849441	3.717818	3.676834	3.769587	3.631629	3.632442	3.932339
57	3.351533	3.501962	3.613310	3.665178	3.462554	3.282186	3.684895	3.646376	3.499892	3.237241
58	3.568614	3.665328	3.759097	3.758818	3.580290	3.682357	3.726298	3.666582	3.642414	3.342754
59	3.360735	3.485274	3.634612	3.734750	3.450439	3.363322	3.588052	3.610351	3.555517	3.285316
60	3.557618	3.648639	3.780399	3.675726	3.588174	3.563993	3.729455	3.650657	3.693039	3.308488
61	3.329258	3.529444	3.688299	3.675726	3.548849	3.488544	3.696553	3.630603	3.448881	3.308488
62	3.526139	3.592810	3.834086	3.769366	3.666584	3.548716	3.737956	3.650309	3.591433	3.414301
63	3.338461	3.512756	3.739531	3.745298	3.536733	3.430180	3.699710	3.594577	3.499506	3.319562
64	3.535343	3.676121	3.855388	3.836937	3.654469	3.630352	3.741113	3.614883	3.642028	3.425076
65	3.569381	3.608023	3.733875	3.625113	3.523792	3.367692	3.724484	3.678700	3.514213	3.800420
66	3.766262	3.771388	3.879652	3.718752	3.641527	3.567863	3.765888	3.699006	3.656735	3.905934
67	3.578484	3.591335	3.755177	3.694685	3.511676	3.469328	3.727651	3.642675	3.564838	3.811495
68	3.775465	3.754700	3.900963	3.788324	3.629412	3.649499	3.769044	3.652981	3.727360	3.917008
69	3.547105	3.635505	3.808864	3.635661	3.610086	3.434050	3.736142	3.682927	3.453232	3.871557
70	3.743987	3.798870	3.954651	3.793001	3.727822	3.634222	3.777545	3.683233	3.605724	3.977180
71	3.556309	3.618817	3.830166	3.705232	3.597971	3.515686	3.739259	3.682690	3.513827	3.892742
72	3.753190	3.762182	3.975953	3.798872	3.715707	3.715858	3.780702	3.647208	3.656349	3.988255
73	3.493436	3.563025	3.680014	3.614609	3.460442	3.321210	3.696011	3.641955	3.472998	3.293156
74	3.690518	3.763990	3.825800	3.708249	3.578178	3.521381	3.737414	3.682241	3.615520	3.398470
75	3.502880	3.566337	3.701316	3.684181	3.448337	3.402846	3.699158	3.625932	3.523623	3.386231
76	3.471361	3.709702	3.847132	3.725157	3.566053	3.490317	3.740571	3.646236	3.666145	3.439745
77	3.688293	3.753872	3.900790	3.718796	3.644737	3.587740	3.707658	3.646181	3.421988	3.384403
78	3.480565	3.573819	3.776335	3.698729	3.534622	3.489204	3.710825	3.610156	3.584509	3.459917
79	3.677446	3.737184	3.922092	3.788368	3.659315	3.669204	3.752228	3.630462	3.472612	3.375478
80	3.563082	3.646044	3.702440	3.640626	3.433711	3.368253	3.675399	3.623399	3.615134	3.480991
81	3.759953	3.809409	3.848226	3.734265	3.551447	3.568425	3.717400	3.643405	3.545728	3.799106
82	3.769165	3.629356	3.723742	3.710198	3.421596	3.498889	3.679154	3.688249	3.688249	3.724520
83	3.572285	3.792721	3.869528	3.803837	3.539331	3.450061	3.720557	3.607380	3.596352	3.810181
84	3.540807	3.573526	3.777429	3.651174	3.520006	3.434611	3.687555	3.637326	3.434717	3.915694
85	3.737688	3.836891	3.923216	3.744813	3.637742	3.634783	3.729058	3.627632	3.637239	3.975866
86	3.550010	3.656838	3.798731	3.720766	3.577891	3.516247	3.690812	3.571301	3.545342	3.881428
87	3.746892	3.820203	3.944517	3.814385	3.625626	3.716419	3.732215	3.591637	3.687863	3.986941
88										
89	3.467338	3.601046	3.546579	3.630122	3.370362	3.321771	3.647524	3.606354	3.534513	3.231842



ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNO	ACCNO	CONSAT	ORDSAT	SUPDEC	MESLEN	EZUMD	LOMYZ	SPKGR	PMPCON
90	3.684219	3.764411	3.794365	3.723762	3.488097	3.521943	3.588927	3.626660	3.647035	3.397356
91	3.496461	3.584358	3.669880	3.696994	3.358246	3.403407	3.508080	3.570328	3.555138	3.302917
92	3.893422	3.747723	3.815657	3.793333	3.475982	3.603379	3.650860	3.590835	3.697660	3.428431
93	3.465063	3.628528	3.723568	3.640670	3.496657	3.388129	3.500580	3.590580	3.453502	3.363089
94	3.661944	3.791893	3.869354	3.754310	3.374392	3.588301	3.700586	3.610886	3.596024	3.468603
95	3.474266	3.611840	3.744870	3.710242	3.444541	3.469765	3.622338	3.554555	3.534127	3.374164
96	3.671147	3.775205	3.890656	3.803881	3.622777	3.669937	3.703741	3.574861	3.646649	3.479677
97	3.611709	3.755087	3.663226	3.699365	3.621621	3.340123	3.707928	3.523156	3.624723	3.719210
98	3.608590	3.713452	3.809013	3.793005	3.739557	3.540294	3.781848	3.728234	3.665678	3.824723
99	3.420912	3.533399	3.684528	3.768937	3.609506	3.421759	3.743601	3.671903	3.573781	3.730285
100	3.611794	3.696764	3.830314	3.862576	3.727242	3.621930	3.785005	3.692209	3.716302	3.635798
101	3.389434	3.377569	3.738215	3.709913	3.737916	3.406481	3.752102	3.692154	3.472145	3.790457
102	3.586315	3.740934	3.884002	3.803552	3.825592	3.606653	3.793505	3.712461	3.614667	3.895970
103	3.398637	3.560881	3.759517	3.779485	3.695801	3.488117	3.755259	3.656129	3.522770	3.851531
104	3.395919	3.724246	3.905304	3.873124	3.813536	3.688289	3.796662	3.676435	3.665292	3.907045
105	3.335965	3.505089	3.609365	3.688861	3.558272	3.293641	3.711971	3.692182	3.481941	3.211946
106	3.532846	3.568454	3.755151	3.782501	3.676008	3.493812	3.753374	3.711489	3.624463	3.317459
107	3.451668	3.688401	3.630667	3.758433	3.561517	3.375277	3.715128	3.652566	3.455157	3.223021
108	3.420449	3.651766	3.776453	3.852072	3.663892	3.575448	3.755431	3.675088	3.475088	3.328534
109	3.313490	3.532571	3.684354	3.699409	3.644567	3.359999	3.723628	3.675039	3.430930	3.231193
110	3.310571	3.495936	3.830181	3.730349	3.762303	3.509171	3.765031	3.695715	3.573452	3.188706
111	3.322893	3.515883	3.705656	3.768981	3.632452	3.441635	3.726785	3.639284	3.481555	3.294268
112	3.519774	3.679248	3.851442	3.862820	3.750187	3.841806	3.768188	3.659590	3.554877	3.717896
113	3.405610	3.588108	3.531791	3.714878	3.531941	3.340864	3.691957	3.672633	3.697192	3.823609
114	3.602292	3.751473	3.777577	3.808518	3.649276	3.540856	3.733361	3.672633	3.605295	3.728971
115	3.414614	3.571420	3.653092	3.784450	3.519425	3.422320	3.695114	3.616302	3.767817	3.834484
116	3.611495	3.734785	3.798879	3.878089	3.637161	3.422492	3.736317	3.636608	3.503659	3.789143
117	3.383135	3.615590	3.706780	3.725426	3.617836	3.407942	3.703615	3.636654	3.644181	3.894456
118	3.580017	3.778955	3.852566	3.819066	3.735571	3.507214	3.745018	3.656860	3.554284	3.830217
119	3.392339	3.598902	3.728082	3.794998	3.605720	3.488678	3.766772	3.600528	3.494806	3.905731
120	3.589220	3.762267	3.873868	3.888637	3.723456	3.688950	3.748175	3.620834	3.513456	3.210632
121	3.329666	3.543110	3.577929	3.704374	3.668192	3.294202	3.563384	3.635581	3.555978	3.316146
122	3.526457	3.706475	3.723716	3.798014	3.585927	3.494374	3.704887	3.655888	3.564080	3.321737
123	3.338870	3.526422	3.592231	3.773946	3.456076	3.375838	3.666441	3.599556	3.706402	3.327220
124	3.535751	3.689787	3.745018	3.675866	3.573812	3.576010	3.708044	3.619862	3.462445	3.281879
125	3.307391	3.570592	3.652919	3.714922	3.554486	3.360560	3.675161	3.613808	3.604967	3.387382
126	3.504273	3.733957	3.798705	3.808562	3.672322	3.560732	3.718298	3.583783	3.513070	3.292354
127	3.316595	3.553904	3.742221	3.764494	3.623771	3.462196	3.768298	3.604069	3.655592	3.398467
128	3.513476	3.717269	3.820007	3.878133	3.660107	3.842369	3.719701	3.696649	3.492113	3.329340
129	3.616525	3.547378	3.702789	3.555965	3.238093	3.265595	3.769946	3.716955	3.634635	4.034854
130	3.813406	3.711343	3.848376	3.649605	3.355828	3.465866	3.811349	3.660624	3.542738	3.940415
131	3.625728	3.531290	3.724091	3.625537	3.225977	3.347330	3.773103	3.680930	3.695260	4.045928
132	3.522609	3.694655	3.869877	3.719177	3.343713	3.547502	3.814506	3.680876	3.441133	4.000587
133	3.594250	3.754660	3.777778	3.566513	3.324387	3.332053	3.781603	3.680876	3.441133	4.000587
134	3.791131	3.738825	3.923565	3.660153	3.442123	3.532224	3.823006	3.701182	3.383625	4.016602
135	3.603453	3.558772	3.799080	3.636085	3.312272	3.413689	3.784750	3.644850	3.491727	4.011662
136	3.800334	3.722137	3.944667	3.729724	3.430008	3.613860	3.826163	3.665156	3.634249	4.117175
137	3.540761	3.502980	3.648928	3.545642	3.174743	3.219212	3.741472	3.679904	3.450899	3.422077
138	3.737662	3.666345	3.794714	3.639101	3.292479	3.419384	3.782875	3.700210	3.593421	3.327590
139	3.549584	3.486292	3.702330	3.615033	3.162628	3.300848	3.744629	3.643878	3.531524	3.433151
140	3.746865	3.449657	3.816016	3.708673	3.280364	3.501020	3.786032	3.664184	3.644046	3.338665
141	3.518504	3.530462	3.723917	3.556010	3.261038	3.285571	3.753129	3.664130	3.399888	3.493323

142 3.715387 3.593827 3.869704 3.649649 3.378774 3.483742 3.794532 3.684436 3.542413 3.598337  
 143 3.527709 3.513774 3.745219 3.625581 3.248923 3.367207 3.756286 3.628105 3.450513 3.504398  
 144 3.724590 3.677139 3.891005 3.719221 3.366659 3.567378 3.797689 3.648411 3.593035 3.609911  
 145 3.610226 3.585999 3.671354 3.571479 3.148012 3.266256 3.721459 3.661348 3.523628 3.928026  
 146 3.807107 3.749364 3.817140 3.665118 3.263748 3.466428 3.762862 3.661354 3.66150 3.933540  
 147 3.619430 3.569311 3.692655 3.641050 3.135897 3.347892 3.724615 3.603023 3.574253 3.939101  
 148 3.816311 3.732676 3.838442 3.734690 3.253632 3.548063 3.766018 3.625329 3.716775 4.044614  
 149 3.587951 3.513481 3.746343 3.582026 3.234307 3.332614 3.733116 3.625275 3.472617 3.999273  
 150 3.784833 3.776846 3.892129 3.675666 3.352343 3.532786 3.774519 3.645581 3.615139 4.104786

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

151 3.597155 3.596793 3.757645 3.651598 3.222192 3.414250 3.736273 3.589249 3.523242 4.010348  
 152 3.794036 3.760158 3.913431 3.745238 3.339927 3.614422 3.777676 3.609556 3.665764 4.115861  
 153 3.534482 3.541001 3.617492 3.560975 3.084663 3.219774 3.692985 3.624303 3.482413 3.423753  
 154 3.731363 3.704366 3.763279 3.654614 3.202399 3.419946 3.734388 3.644609 3.624935 3.526276  
 155 3.543685 3.524313 3.638794 3.630546 3.072548 3.301410 3.696142 3.588277 3.53038 3.331837  
 156 3.740567 3.687678 3.784581 3.721866 3.190283 3.501581 3.737545 3.608584 3.675560 3.537351  
 157 3.512237 3.568483 3.592482 3.571523 3.179958 3.286132 3.704642 3.608529 3.431403 3.632309  
 158 3.700888 3.731848 3.838268 3.665162 3.288693 3.486304 3.746045 3.628835 3.573924 3.597523  
 159 3.524410 3.551795 3.713784 3.641094 3.158842 3.367768 3.707799 3.572504 3.492027 3.503084  
 160 3.718292 3.715160 3.859570 3.734734 3.278578 3.567940 3.748202 3.592810 3.624549 3.528597  
 161 3.458853 3.490042 3.532140 3.630218 3.335922 3.238126 3.785906 3.725877 3.501056 3.84130  
 162 3.655735 3.653407 3.777926 3.723857 3.453656 3.538297 3.827309 3.746183 3.643578 3.953643  
 163 3.468057 3.473354 3.653442 3.323807 3.319761 3.789053 3.587852 3.687852 3.551681 3.55225  
 164 3.664938 3.636719 3.799228 3.793429 3.441543 3.830866 3.710158 3.694203 3.594203 3.964718  
 165 3.434578 3.517524 3.707129 3.640766 3.422217 3.504484 3.797563 3.710103 3.500045 3.919377  
 166 3.633460 3.680889 3.852916 3.734405 3.539953 3.504655 3.838966 3.730439 3.592567 4.024890  
 167 3.445782 3.503836 3.728431 3.713337 3.410102 3.386120 3.800720 3.674078 3.50670 3.930452  
 168 3.642663 3.664201 3.874218 3.803977 3.278338 3.586291 3.842123 3.694384 3.643192 3.40866  
 169 3.383139 3.445044 3.578279 3.619714 3.272573 3.191543 3.757432 3.709131 3.602364 3.445380  
 170 3.579920 3.508409 3.724065 3.713353 3.390309 3.91815 3.798835 3.729437 3.59842 3.340866  
 171 3.392312 3.428356 3.591721 3.630262 3.689285 3.273279 3.760589 3.673106 3.631066 3.351941  
 172 3.589194 3.591721 3.745367 3.782925 3.263458 3.733651 3.801992 3.693412 3.652988 3.457454  
 173 3.360834 3.472526 3.653268 3.630262 3.588668 3.258002 3.76089 3.693358 3.652881 3.412113  
 174 3.557715 3.635891 3.799055 3.723901 3.476604 3.58173 3.810493 3.713664 3.551353 3.517626  
 175 3.370037 3.455838 3.674570 3.698833 3.36753 3.339438 3.772466 3.657333 3.459456 3.423188  
 176 3.566919 3.619203 3.820356 3.793473 3.464488 3.539809 3.813649 3.677159 3.601978 3.528701  
 177 3.452555 3.528063 3.500735 3.645731 3.245842 3.238887 3.737419 3.670276 3.532571 3.846816  
 178 3.649436 3.691428 3.739370 3.715302 3.353579 3.38859 3.77822 3.690582 3.675093 3.952329  
 179 3.461758 3.511375 3.622006 3.715302 3.353579 3.38859 3.77822 3.690582 3.675093 3.952329  
 180 3.558639 3.574740 3.767793 3.808942 3.351462 3.305945 3.749076 3.654502 3.481560 3.918063  
 181 3.430280 3.555545 3.675694 3.656279 3.332137 3.305945 3.749076 3.654502 3.481560 3.918063  
 182 3.627161 3.718910 3.821480 3.749918 3.449872 3.505217 3.790489 3.618477 3.532185 3.929138  
 183 3.439483 3.538957 3.696996 3.725850 3.320021 3.386681 3.752233 3.618477 3.532185 3.929138  
 184 3.636364 3.702222 3.842782 3.819490 3.37757 3.586853 3.793636 3.638783 3.674707 3.934551  
 185 3.376810 3.483065 3.627843 3.635227 3.182493 3.192205 3.708945 3.653530 3.491356 3.399552  
 186 3.573592 3.546430 3.692630 3.728866 3.300228 3.392376 3.750348 3.673837 3.633878 3.445366  
 187 3.386014 3.466377 3.558145 3.704799 3.170377 3.273841 3.712102 3.617505 3.541981 3.350627  
 188 3.582895 3.629742 3.713932 3.798438 3.28113 3.874012 3.753505 3.637811 3.684503 3.456140  
 189 3.354535 3.510547 3.621833 3.645775 3.268788 3.258563 3.720502 3.637757 3.440345 3.410799  
 190 3.551417 3.573912 3.737519 3.739414 3.386523 3.458735 3.762005 3.658063 3.592867 3.516312  
 191 3.363739 3.493859 3.643135 3.715347 3.256672 3.340199 3.723759 3.601732 3.490970 3.421874  
 192 3.560620 3.657224 3.788921 3.808986 3.374408 3.540371 3.765162 3.622338 3.633492 3.527387  
 193 3.594658 3.589126 3.667408 3.595162 3.243730 3.277711 3.748534 3.685855 3.505677 3.322732

194	3.791539	3.752491	3.813195	3.688801	3.361466	3.477882	3.789937	3.706161	3.648199	4.008245
195	3.603861	3.572438	3.688710	3.664733	3.231615	3.359347	3.751691	3.649829	3.556302	3.913806
196	3.800743	3.735803	3.834497	3.759373	3.349351	3.595918	3.793094	3.670135	3.698826	4.219320
197	3.572383	3.616608	3.742397	3.603710	3.332025	3.340469	3.760191	3.670081	3.654666	3.973978
198	3.769264	3.779973	3.888184	3.699349	3.447761	3.544261	3.801595	3.690387	3.897188	4.079492
199	3.581586	3.599920	3.763699	3.678281	3.317910	3.623705	3.763348	3.634356	3.595291	3.990353
200	3.778668	3.763285	3.909486	3.768921	3.435645	3.625877	3.804751	3.648362	3.647813	4.090367

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTFC	ACCNO	COMSAT	ONDSAT	SUPDEC	MESLEN	EZUND	LOMYZ	SPCGRA	PMPCON
201	3.518914	3.544128	3.513547	3.584658	3.180381	3.231229	3.720060	3.669109	3.464463	3.335468
202	3.715795	3.707493	3.759334	3.678297	3.298117	3.431400	3.761463	3.689415	3.606985	3.500981
203	3.528117	3.527439	3.634849	3.654229	3.168266	3.312865	3.723217	3.633084	3.515088	3.406543
204	3.724998	3.590805	3.780635	3.747869	3.286001	3.513036	3.764620	3.653390	3.657610	3.512156
205	3.496639	3.571610	3.588536	3.595205	3.266676	3.297587	3.731718	3.653336	3.613452	3.666715
206	3.693520	3.734975	3.834323	3.688845	3.384412	3.697759	3.731121	3.673642	3.555974	3.572228
207	3.505862	3.554321	3.709838	3.664777	3.254561	3.379223	3.734875	3.617310	3.464077	3.577789
208	3.703723	3.718287	3.855625	3.758417	3.372296	3.579395	3.776278	3.637616	3.606599	3.583303
209	3.588359	3.627147	3.635973	3.610675	3.153650	3.278272	3.700047	3.630254	3.577192	3.901418
210	3.785241	3.790512	3.781759	3.704314	3.271385	3.478444	3.741450	3.650560	3.679714	4.006931
211	3.597553	3.610459	3.557275	3.683246	3.141534	3.359908	3.703204	3.594228	3.587817	3.912493
212	3.794444	3.773824	3.803061	3.773886	3.252273	3.560080	3.744607	3.614534	3.730339	4.018006
213	3.566084	3.654629	3.710962	3.621223	3.239945	3.344630	3.711704	3.614480	3.646181	3.972664
214	3.762956	3.817934	3.656749	3.714862	3.357680	3.544802	3.753107	3.634786	3.628733	4.378178
215	3.575288	3.637941	3.732264	3.690796	3.227829	3.426266	3.714861	3.578455	3.536806	3.983739
216	3.772169	3.801306	3.878051	3.784434	3.345565	3.624338	3.756264	3.598761	3.679328	4.089253
217	3.512515	3.582148	3.582112	3.600171	3.090301	3.231790	3.715773	3.613508	3.495977	3.394154
218	3.709496	3.745514	3.727898	3.693810	3.431962	3.313426	3.712976	3.633814	3.638499	3.499667
219	3.521818	3.565460	3.603414	3.669743	3.078185	3.313426	3.675730	3.577483	3.546602	3.405229
220	3.718700	3.728826	3.749200	3.763382	3.195921	3.513598	3.716133	3.597789	3.689124	3.510742
221	3.490340	3.609631	3.657101	3.610719	3.176595	3.298148	3.683230	3.597735	3.449666	3.655601
222	3.687221	3.772996	3.802888	3.704358	3.294331	3.498320	3.727534	3.618041	3.587488	3.570914
223	3.699543	3.592942	3.678403	3.680290	3.282216	3.379784	3.686387	3.561739	3.495591	3.476475
224	3.594625	3.756308	3.824189	3.773930	3.282216	3.379784	3.686387	3.561739	3.495591	3.476475
225	3.436986	3.531190	3.596759	3.669416	3.341563	3.250142	3.764494	3.715082	3.514620	3.821521
226	3.633868	3.694555	3.742546	3.763053	3.459296	3.450313	3.805897	3.735388	3.657142	3.927035
227	3.445190	3.514502	3.618061	3.738985	3.329445	3.331778	3.767651	3.679057	3.565245	3.532596
228	3.643071	3.677867	3.753848	3.832625	3.447180	3.531949	3.809054	3.699363	3.707767	3.938109
229	3.414712	3.558672	3.671748	3.679962	3.427855	3.315500	3.776152	3.699309	3.463609	3.892768
230	3.611593	3.722037	3.817535	3.773601	3.545591	3.516672	3.817555	3.606131	3.606131	3.998281
231	3.423915	3.541984	3.593050	3.749533	3.415740	3.398136	3.779308	3.663283	3.514234	3.903843
232	3.620796	3.705349	3.838837	3.863173	3.533475	3.598308	3.820712	3.683590	3.656756	4.009356
233	3.361242	3.486192	3.542898	3.658910	3.278211	3.203660	3.736020	3.698337	3.473405	3.314258
234	3.558124	3.549557	3.688595	3.752550	3.266395	3.285296	3.777423	3.718643	3.615927	3.413771
235	3.370446	3.469504	3.564200	3.725482	3.383831	3.485467	3.793177	3.662311	3.524030	3.325332
236	3.567327	3.632869	3.709986	3.822121	3.383831	3.485467	3.793177	3.662311	3.524030	3.325332
237	3.338957	3.513674	3.617887	3.669458	3.364506	3.270018	3.747678	3.682517	3.666552	3.430846
238	3.535849	3.677039	3.753674	3.763097	3.432241	3.470190	3.789081	3.702869	3.422395	3.385524
239	3.348171	3.496986	3.639189	3.739030	3.352390	3.351554	3.750835	3.644538	3.473019	3.394579
240	3.545252	3.550351	3.784976	3.832669	3.470126	3.551826	3.792238	3.686844	3.615541	3.532392
241	3.430688	3.569211	3.553324	3.684927	3.251480	3.250703	3.716007	3.659481	3.546135	3.820207
242	3.627569	3.735376	3.711110	3.778566	3.368215	3.459375	3.757410	3.679787	3.686656	3.925721
243	3.439891	3.552523	3.754499	3.754936	3.353339	3.332339	3.719164	3.623456	3.596759	3.831282
244	3.636773	3.715888	3.732412	3.848138	3.357100	3.332511	3.760567	3.643762	3.739281	3.936796
245	3.408413	3.596693	3.640313	3.695475	3.333774	3.317061	3.727664	3.643708	3.495124	3.891454

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCND	CONSAT	ORDSAT	SUPDEC	MESLEN	EZUND	LOWYZ	SPAGRA	PMP-ON
246	3.605294	3.740058	3.786100	3.789114	3.455510	3.517233	3.769057	3.664314	3.637646	3.996967
247	3.417616	3.580025	3.551515	3.785046	3.325659	3.398697	3.730821	3.607682	3.545749	3.922529
248	3.614498	3.743370	3.807402	3.858686	3.443395	3.598669	3.772224	3.627989	3.688270	4.008042
249	3.356944	3.542213	3.511463	3.674423	3.188130	3.294221	3.687533	3.642735	3.504920	3.312944
250	3.551825	3.587578	3.657249	3.768063	3.305866	3.404393	3.728936	3.663042	3.647442	3.418457
251	3.364147	3.537525	3.532765	3.743995	3.174015	3.285857	3.690590	3.606710	3.555545	3.324318
252	3.561028	3.670890	3.578531	3.837434	3.293751	3.486029	3.732093	3.627017	3.698067	3.429532
253	3.332669	3.551495	3.586452	3.684971	3.274425	3.270579	3.699191	3.626962	3.453909	3.384190
254	3.529550	3.715040	3.732239	3.786111	3.392161	3.470751	3.740594	3.647268	3.576431	3.489704
255	3.341872	3.535007	3.507754	3.754543	3.262310	3.352215	3.702347	3.590937	3.504534	3.395265
256	3.538753	3.698372	3.753540	3.848182	3.333345	3.552387	3.743751	3.611243	3.647056	3.500778

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	11	12	13	14
	EZCOMP	CLRPIC	NOTAMS	HLRUP
1	3.663678	3.484052	4.034530	4.285647
2	3.856660	3.624320	4.200002	4.475463
3	3.712311	3.530131	4.071665	4.382512
4	3.905282	3.870459	4.237138	4.572328
5	3.712715	3.487928	4.001327	4.130319
6	3.925696	3.628197	4.168800	4.332855
7	3.761337	3.534367	4.038463	4.239904
8	3.954318	3.874336	4.203935	4.429720
9	3.600184	3.431294	4.003332	4.223096
10	3.793155	3.571562	4.168805	4.412911
11	3.648807	3.477433	4.040458	4.319960
12	3.841788	3.617701	4.205940	4.509775
13	3.649220	3.435170	3.970130	4.080487
14	3.842232	3.575439	4.135602	4.270303
15	3.697843	3.481309	4.007265	4.177352
16	3.890824	3.621578	4.172738	4.367168
17	3.731573	3.516751	4.071830	4.378734
18	3.924555	3.557319	4.237310	4.568550
19	3.780196	3.562890	4.108974	4.475599
20	3.973177	3.703158	4.274446	4.665415
21	3.780539	3.520627	4.038635	4.236126
22	3.973591	3.660896	4.204138	4.459421
23	3.829232	3.566766	4.075771	4.352991
24	4.022213	3.737335	4.241243	4.522806
25	3.668079	3.463993	4.040541	4.315182
26	3.861060	3.604261	4.206113	4.505998
27	3.716701	3.510132	4.077776	4.413047
28	3.909683	3.550430	4.263249	4.602863
29	3.717115	3.467869	4.007438	4.173574
30	3.910096	3.608138	4.172910	4.363390
31	3.765737	3.514008	4.044574	4.270439
32	3.958719	3.654277	4.210346	4.460255



33 3.638839 3.507539 3.933689 4.141610  
 34 3.828820 3.647808 4.099161 4.331425  
 35 3.684462 3.553678 3.970825 4.238475  
 36 3.877443 3.693947 4.136297 4.528290  
 37 3.684875 3.511615 3.904487 3.999002  
 38 3.877855 3.651684 4.065959 4.188817  
 39 3.733498 3.557554 3.937623 4.095866  
 40 3.926479 3.697823 4.103095 4.285882  
 41 3.572345 3.454781 3.902492 4.079058  
 42 3.763326 3.595050 4.057964 4.268874  
 43 3.620967 3.500920 3.939628 4.175923  
 44 3.813949 3.641189 4.105100 4.365738  
 45 3.621381 3.458657 3.869290 3.936450  
 46 3.814362 3.598926 4.034762 4.126265  
 47 3.670003 3.504796 3.904425 4.033315  
 48 3.862985 3.645065 4.071898 4.231330  
 49 3.703734 3.540238 3.970997 4.234697  
 50 3.896715 3.680507 4.136469 4.424512

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTAMS	14 HRLUP
51	3.752356	3.586377	4.008133	4.331561
52	3.945338	3.726646	4.173605	4.521377
53	3.752770	3.544114	3.937795	4.092088
54	3.945751	3.684383	4.103267	4.281904
55	3.801392	3.590253	3.974931	4.188953
56	3.994374	3.730522	4.140403	4.378769
57	3.640239	3.487480	3.939800	4.172145
58	3.833221	3.627749	4.102722	4.361961
59	3.688862	3.533619	3.974936	4.269010
60	3.881843	3.673888	4.142408	4.458825
61	3.688276	3.491356	3.906598	4.029537
62	3.882257	3.631625	4.072070	4.219352
63	3.737898	3.537495	3.943733	4.126401
64	3.930879	3.677764	4.109236	4.316217
65	3.638384	3.531746	4.002395	4.240565
66	3.831366	3.672014	4.167867	4.430380
67	3.687007	3.577885	4.039531	4.337430
68	3.879988	3.718153	4.205003	4.527245
69	3.687420	3.535622	3.969193	4.097957
70	3.880402	3.675591	4.134665	4.287772
71	3.736043	3.581761	4.006329	4.194821
72	3.929024	3.722030	4.171801	4.384637
73	3.574890	3.478988	3.971198	4.178013
74	3.767871	3.619257	4.136670	4.367829
75	3.623513	3.525127	4.008334	4.274878
76	3.814494	3.665396	4.173806	4.464693
77	3.623926	3.482864	3.937996	4.035405
78	3.814908	3.623133	4.103468	4.223220
79	3.672549	3.525003	3.975132	4.132270
80	3.865530	3.569272	4.140604	4.322085
81	3.706279	3.564445	4.039733	4.333652
82	3.899260	3.704713	4.205175	4.523457
83	3.754902	3.610584	4.076839	4.430516
84	3.947883	3.750852	4.242311	4.620332



85	3.755315	3.588321	4.006501	4.191043
86	3.948297	3.708590	4.171973	4.380859
87	3.803938	3.514460	4.043637	4.287908
88	3.966919	3.754729	4.209109	4.677724
89	3.632785	3.511687	4.008506	4.271100
90	3.835766	3.551956	4.173978	4.460916
91	3.691407	3.557826	4.045642	4.367965
92	3.884389	3.698095	4.211114	4.557780
93	3.691821	3.515543	3.975304	4.128492
94	3.884802	3.655832	4.150776	4.318307
95	3.740443	3.561702	4.012440	4.255356
96	3.933425	3.701971	4.177912	4.451172
97	3.610545	3.555233	3.901554	4.086527
98	3.803526	3.645502	4.047027	4.286343
99	3.659168	3.601372	3.938690	4.193592
100	3.852119	3.741641	4.104162	4.383208

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTAMS	14 HRLJP
101	3.659581	3.559109	3.868352	3.953919
102	3.852552	3.659378	4.033824	4.143735
103	3.708204	3.605248	3.905488	4.050784
104	3.901185	3.745517	4.070940	4.240600
105	3.547031	3.502475	3.870357	4.033975
106	3.740032	3.842744	4.035829	4.223791
107	3.595673	3.548614	3.907493	4.150840
108	3.788655	3.688883	4.072965	4.320656
109	3.596087	3.536351	3.837155	3.891367
110	3.644709	3.646620	4.002627	4.081183
111	3.837691	3.552490	3.874291	3.988232
112	3.678440	3.587932	4.039763	4.178048
113	3.871421	3.728201	3.938863	4.189614
114	3.727062	3.634071	4.104335	4.379430
115	3.920064	3.774340	3.975998	4.379430
116	3.727476	3.591808	4.141471	4.476295
117	3.920457	3.732077	3.925650	4.047006
118	3.776098	3.637947	4.071132	4.236822
119	3.969080	3.778216	3.942796	4.143871
120	3.615945	3.535174	4.108258	4.333686
121	3.807927	3.675443	3.907645	4.127062
122	3.863518	3.581313	4.073138	4.316878
123	3.856589	3.721582	3.944801	4.223927
124	3.863981	3.539050	4.110273	4.413743
125	3.856963	3.679319	3.874463	3.984454
126	3.712634	3.585190	4.039935	4.174270
127	3.905385	3.725458	3.911599	4.081319
128	3.673937	3.430667	4.077071	4.271135
129	3.866918	3.570935	3.982503	4.358943
130	3.722559	3.476806	4.147975	4.548759
131	3.915541	3.617074	4.019539	4.455808
132	3.722973	3.434543	4.185111	4.645624
133	3.915954	3.574812	3.949301	4.216335
134	3.711595	3.480682	4.114773	4.406151
135	3.964577	3.620951	3.986437	4.313200
136			4.151909	4.503015

137	3.610462	3.377329	3.951306	4.296391
138	3.803424	3.318178	4.116778	4.586207
139	3.659265	3.424048	3.988442	4.393256
140	3.852365	3.364317	4.153914	4.583072
141	3.659478	3.381785	3.918104	4.153783
142	3.852460	3.322054	4.083576	4.343599
143	3.708101	3.427724	3.955240	4.250648
144	3.901082	3.368193	4.120712	4.440464
145	3.741831	3.463366	4.019811	4.520300
146	3.934813	3.403634	4.185284	4.641846
147	3.790456	3.359525	4.056947	4.548895
148	3.983435	3.449773	4.222419	4.718710
149	3.790867	3.467242	3.986609	4.309422
150	3.983849	3.507511	4.152081	4.499238

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	11 EZCOMP	12 CLRPC	13 NOTAMS	14 HRLUP
151	3.839490	3.513381	4.023745	4.406287
152	4.032471	3.653650	4.139217	4.596102
153	3.678337	3.410608	3.988614	4.389478
154	3.871318	3.550877	4.154086	4.579294
155	3.726950	3.456747	4.025750	4.486343
156	3.919941	3.597016	4.191222	4.676159
157	3.727373	3.414484	3.955412	4.246870
158	3.920354	3.554753	4.120884	4.436686
159	3.775996	3.606623	3.992548	4.343735
160	3.968977	3.608992	4.158020	4.533550
161	3.646097	3.554154	3.881663	4.214906
162	3.839079	3.524423	4.047135	4.434721
163	3.694720	3.500293	3.918798	4.311770
164	3.887751	3.640562	4.084271	4.501586
165	3.695133	3.458030	3.848460	4.072297
166	3.888115	3.598299	4.013932	4.262113
167	3.743756	3.504169	3.885596	4.169162
168	3.936737	3.644438	4.051068	4.358978
169	3.582603	3.401396	3.850455	4.152354
170	3.775584	3.541665	4.015938	4.342170
171	3.631226	3.447535	3.887601	4.249219
172	3.824237	3.587804	4.053073	4.439034
173	3.631639	3.405272	3.817263	4.009746
174	3.824620	3.545541	3.982735	4.199561
175	3.680252	3.451411	3.854399	4.106610
176	3.873243	3.591680	4.019871	4.296426
177	3.713992	3.484853	3.918971	4.207992
178	3.904973	3.527122	4.084443	4.497808
179	3.762415	3.523992	3.956126	4.404857
180	3.953596	3.673261	4.121579	4.594673
181	3.763028	3.490729	3.885768	4.165384
182	3.956539	3.530998	4.051241	4.355200
183	3.811651	3.536868	3.922924	4.262249
184	4.004632	3.677137	4.088376	4.452065
185	3.650498	3.434095	3.887774	4.245441
186	3.843479	3.574364	4.053246	4.435256
187	3.699120	3.480234	3.924909	4.342305
188	3.892102	3.620503	4.090381	4.532121

189 3.699534 3.437971 3.854571 4.102833  
 190 3.892515 3.578240 4.020043 4.292648  
 191 3.748156 3.484111 3.891707 4.199697  
 192 3.941118 3.624379 4.057179 4.389513  
 193 3.648643 3.478361 3.940369 4.319861  
 194 3.841624 3.618630 4.115841 4.503676  
 195 3.697255 3.524550 3.987505 4.40725  
 196 3.890247 3.664769 4.152977 4.605541  
 197 3.697679 3.482237 3.917167 4.171252  
 198 3.890660 3.522536 4.082639 4.361066  
 199 3.746301 3.528376 3.954332 4.268117  
 200 3.939283 3.668645 4.119775 4.457933

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTAMS	14 HRLUP
201	3.585148	3.425603	3.919172	4.251309
202	3.778130	3.565872	4.084644	4.441125
203	3.633771	3.471742	3.956307	4.348174
204	3.826752	3.612011	4.121780	4.537989
205	3.634184	3.429479	3.885969	4.108701
206	3.827166	3.569748	4.051442	4.298516
207	3.682807	3.475618	3.923125	4.235565
208	3.875788	3.615887	4.088577	4.395381
209	3.716537	3.511060	3.987677	4.406947
210	3.909519	3.551329	4.153149	4.596763
211	3.765160	3.557199	4.024913	4.503812
212	3.958141	3.697468	4.190285	4.693628
213	3.765573	3.514236	3.954475	4.264339
214	3.958555	3.655205	4.119947	4.454155
215	3.814196	3.561075	3.991610	4.361204
216	4.057177	3.701344	4.157083	4.551020
217	3.653343	3.458302	3.956480	4.344396
218	3.846024	3.588271	4.121952	4.534211
219	3.701666	3.504441	3.993616	4.441260
220	3.894647	3.544713	4.159088	4.631076
221	3.702079	3.462178	3.923277	4.201788
222	3.895060	3.602447	4.088750	4.381603
223	3.753702	3.508317	3.960413	4.298652
224	3.943533	3.543586	4.125885	4.488468
225	3.620803	3.501848	3.849528	4.167823
226	3.813785	3.642117	4.015000	4.359639
227	3.669426	3.547987	3.886664	4.266688
228	3.852477	3.588256	4.052136	4.456504
229	3.669839	3.505724	3.816326	4.027215
230	3.862821	3.645993	3.981798	4.217031
231	3.718452	3.551363	3.853462	4.124080
232	3.911443	3.692132	4.018934	4.313895
233	3.551309	3.449090	3.818331	4.107271
234	3.755290	3.589359	3.983803	4.297087
235	3.505931	3.493223	3.855467	4.204136
236	3.798913	3.633498	4.020939	4.393952
237	3.606345	3.452967	3.785129	3.965663
238	3.799326	3.593235	3.950601	4.154479
239	3.654958	3.499106	3.322284	4.061528
240	3.847949	3.639374	3.987737	4.251344

241	3.586698	3.534547	3.886836	4.262910
242	3.881579	3.574816	4.052338	4.452726
243	3.737320	3.804886	3.823972	4.359775
244	3.930322	3.720955	4.089444	4.549590
245	3.737734	3.538423	3.853634	4.120302
246	3.930715	3.678692	4.019136	4.310117
247	3.786357	3.584563	3.890770	4.217167
248	3.979338	3.724831	4.056242	4.406982
249	3.625204	3.481789	3.855639	4.230358
250	3.818185	3.622058	4.021111	4.390174

ESTIMATED CELL MEANS, ALL GROUPS - CELLS X VARIABLES

11	12	13	14
EZCOMP	CLRPIC	NOTAMS	HRLUP
251	3.673826	3.527928	4.297223
252	3.866807	3.688197	4.487039
253	3.874240	3.493666	4.057750
254	3.867221	3.625934	4.247566
255	3.722862	3.531805	4.154615
256	3.915844	3.672073	4.344430

MEANS ESTIMATED BY FITTING MODEL OF RANK 9

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

1	2	3	4	5	6	7	8	9	10
ANTVPJ	ACCWFO	CONSAT	ORDSAT	SUPDEC	MESLEN	EZUND	LOWYZ	SPCGRA	PMPCON
1	-0.202358	-0.568875	-0.991478	-0.585917	-0.148513	-0.522342	-0.467273	-0.157316	-0.938140
2	-0.538129	0.269759	0.084958	-0.679556	0.354111	-0.555847	0.290199	-0.106829	0.067458
3	0.899549	-3.550187	0.209442	0.344512	1.493962	0.562689	0.346530	-0.551274	0.161896
4	-0.797332	-0.213552	-0.436344	-0.249128	-0.123774	-0.637483	0.709544	-1.693796	1.353383
5	0.401164	0.311456	0.284505	-0.575413	-0.288138	0.274140	0.160584	-0.459435	0.313568
6	-0.221588	0.331446	0.117517	0.261376	0.439575	-0.091001	0.345270	0.347419	1.563647
7	-0.140504	-0.049341	-0.182265	0.398570	0.016371	0.032652	0.191480	0.467836	0.395537
8	-0.948497	0.231738	0.116333	-0.361736	0.129858	-0.389742	-0.143884	0.325314	0.068772
9	-0.594152	-0.588208	0.240878	0.326999	0.584042	-0.37873	0.402131	-0.582789	-1.836790
10	0.208967	0.248427	0.095091	0.235359	0.464306	0.36912	-1.618175	-0.725310	0.057697
11	0.324129	0.106769	0.316241	-0.257593	0.384724	-0.668935	0.617148	0.175718	1.349216
12	0.627248	0.276737	0.170254	-0.101789	0.156740	-0.622995	-0.637455	0.458426	-0.090631
13	-0.018408	0.456790	0.294739	-0.600498	1.647391	-0.108639	-2.581123	0.458426	-0.329526
14	-0.284711	-1.705579	0.148952	0.245863	-1.470344	0.408438	0.398571	0.315924	0.554951
15	-0.010499	0.183368	0.147547	-0.333719	0.333559	-0.210355	0.127431	0.107393	-0.207357
16	-0.213791	0.892252	-0.119909	0.262908	-0.333719	-0.069549	0.094305	0.347886	-0.851332
17	0.092168	-0.363941	0.155607	0.240192	-0.403868	-0.009742	-0.682697	-0.160217	-0.355323
18	0.445287	-0.363941	0.355255	-0.349665	0.047366	-0.033383	-0.001977	0.031623	-0.038555
19	-0.367035	0.372693	0.209468	0.256695	0.518204	-0.033383	0.277717	-0.610899	-0.354370
20	0.436084	0.552747	0.333953	0.280763	-0.263451	0.363260	0.334248	-0.019002	0.750370
21	-0.664443	0.389382	0.188156	0.187124	0.459481	-0.363451	0.33742	0.338476	0.546357
22	-0.004200	0.508577	0.280265	0.339787	0.341745	0.436568	0.222057	0.582634	0.690198
23	-0.052710	0.222270	0.102059	0.324318	0.652017	0.222057	0.313796	0.074278	0.024726
24	-0.052710	0.289674	0.187042	-0.197893	-0.174822	0.055862	-0.106109	-0.326485	0.149982
25	0.563519	-0.030272	0.311527	0.251746	-0.233788	-1.913304	-0.627096	-1.091731	0.494421

26	3.438067	-0.336495	-0.262831	-0.196036	-0.274381	0.175239	-0.400785	-0.433117	-0.162825	0.138907
27	0.398115	0.262192	0.112553	0.220131	-0.729934	0.404802	-1.766430	-0.667654	-0.326217	0.378735
28	-0.086827	-0.854904	-0.250359	-0.194590	0.125681	-0.223362	0.096660	-0.116964	-0.352833	0.115700
29	-0.087949	-0.119873	0.149994	0.332091	-0.125744	0.290370	0.273702	0.515136	-0.051505	-0.342754
30	-0.057618	0.518027	0.052935	0.338277	0.265159	0.102571	0.437211	0.536230	0.473628	0.479524
31	-0.170742	0.470556	0.311701	0.324274	-0.215515	-0.015211	0.636781	0.702731	0.551119	0.358179
32	-0.071540	-0.005431	0.024224	-0.041960	0.307526	0.042538	0.374552	0.029332	0.000876	0.000876
33	-0.065577	-0.013541	0.024224	0.034611	-0.130316	0.039760	0.18855	0.04730	0.044739	0.044739
34	-0.079311	0.224454	0.113244	-0.066440	0.274834	0.129420	-0.253957	-0.274254	-0.071996	0.056926
35	-0.071518	0.061089	-0.113244	0.066440	0.274834	0.129420	-0.253957	-0.274254	-0.071996	0.056926
36	-0.047106	-0.492648	0.523150	-0.207089	-0.326372	-0.148336	-0.307570	-0.234355	-0.174488	-0.206482
37	-0.256313	0.201130	-0.045349	0.270700	0.272178	-0.165778	-0.224555	-0.394276	-0.443096	0.223220
38	-0.056309	0.381183	0.169834	0.298768	0.623229	-0.015686	1.560701	1.373099	0.486173	1.117258
39	-0.095379	0.043036	0.051047	0.029330	-0.043346	0.055884	-0.210405	0.035015	0.038365	0.062504
40	-0.063158	-0.153574	-0.068519	0.135433	-0.053906	-0.055362	0.010159	0.026477	0.054591	-0.379281
41	0.093314	-0.084798	0.057915	0.277358	0.013212	-0.133615	-0.010545	-0.010545	0.109717	-0.030434
42	0.265796	0.117884	-0.226413	0.222180	0.227041	0.328017	0.352533	-0.025546	0.109717	-0.030434
43	-1.971361	-0.340507	-0.050003	0.124843	0.703263	-1.137568	-0.957658	-0.896181	-1.921985	-0.855397
44	-0.668243	0.246128	0.399210	0.281204	1.335527	-0.587740	0.250929	0.333513	0.435491	-1.149317
45	-0.077446	0.262816	0.077908	0.211532	-1.652357	-0.169375	0.247772	0.369538	0.384866	-0.19509
46	0.086918	0.030146	0.031011	0.073660	-0.057521	0.057375	0.043050	0.119758	0.131892	-0.056747
47	-0.084953	-0.017743	-0.027393	0.033235	-0.013947	0.026758	-0.054900	-0.039239	-0.039283	0.174347
48	-0.072285	-0.379356	0.026258	0.039802	0.328434	-0.012389	0.445846	-0.212074	-0.033852	-0.310181
49	-0.098435	-0.231745	-0.015870	-0.218471	-0.027136	-0.040305	-0.135191	-0.290307	0.017223	-0.011135
50	-0.071495	0.210835	0.044491	0.062947	0.094985	-0.039593	0.174259	0.047112	-0.053919	0.153732

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

51	3.124232	-0.033915	0.106344	0.028011	0.107647	-0.075134	-0.114459	0.025822	0.016386	-0.337235
52	-0.440985	0.304531	0.107897	-0.588583	-0.136024	-0.014518	0.015986	-0.125884	-0.555138	-0.747362
53	0.109608	0.131065	-0.209606	0.024848	0.220988	0.047937	0.054886	-0.014877	-0.030993	-0.590249
54	-0.465063	-0.628228	0.276432	0.359330	-0.456657	-0.388129	0.340819	0.439420	0.546498	0.636911
55	-0.331352	0.031956	-0.056053	0.268492	0.128379	-0.366908	-0.061873	-0.047214	-0.326727	-0.076353
56	-0.239236	-0.191713	0.060553	-0.103396	-0.357183	0.133619	-0.173152	-0.032582	0.095192	0.046482
57	-0.113220	-0.224756	-0.069143	-0.076629	-0.686429	0.116703	-0.128217	-0.097328	-0.343011	-0.191823
58	-0.029558	-0.047356	0.052039	-0.333164	-0.037464	-0.121930	-0.314416	-0.280444	0.048433	-0.129916
59	0.110566	0.755764	0.261785	0.290087	0.625417	-0.093519	-0.085435	0.641179	-0.138811	0.542877
60	1.101363	0.439114	0.240483	0.220515	0.304199	-0.488117	0.244741	0.343871	-0.522770	0.198469
61	-0.424481	0.275754	0.094696	0.124876	0.184844	-0.188289	0.203338	0.323565	0.334738	0.332355
62	-0.143657	0.033372	0.138584	0.254728	-0.319811	-0.242359	0.070345	-0.255285	-0.289433	-0.071429
63	-0.032846	0.164879	-0.477374	-0.217499	-0.064897	0.033355	0.191371	-0.177400	0.097759	-0.232321
64	0.354832	-0.288431	-0.030867	-0.158433	-0.346157	0.324357	0.084972	-0.455157	0.157434	-0.747362
65	0.207951	0.098234	0.223347	0.147928	0.336108	0.174552	0.243469	0.324537	0.324912	0.171466
66	0.087740	0.014631	-0.083845	-0.098440	0.125593	0.131919	-0.195108	0.005207	0.096015	0.090323
67	0.147738	-0.001473	0.034923	-0.079351	-0.170110	0.094561	-0.045851	-0.047533	-0.186775	-0.073409
68	0.449023	0.264943	0.346908	0.306459	0.026029	0.441316	0.213977	0.110891	0.349250	-0.231598
69	-0.048995	-0.009785	0.051121	0.065911	0.137839	0.102508	0.013483	0.138992	0.052183	0.165516
70	0.866865	-0.115590	0.293220	0.274574	-0.617836	0.592358	0.296385	0.363445	0.492641	0.710857
71	0.586550	0.221345	0.147434	-0.180934	-0.068905	0.226119	0.588315	0.009807	0.353819	-1.551323
72	-0.056939	0.025072	-0.232475	0.222898	-0.236373	0.171707	0.109244	0.114419	0.236544	-0.155178
73	-0.140833	0.093525	0.076284	0.087700	0.242644	0.052769	0.317970	-0.051255	-0.113120	-0.116146
74	-0.011130	-0.026422	0.000769	0.373946	0.043924	0.024162	0.233359	-0.299555	0.335920	0.373293
75	-0.160751	0.010213	-0.395018	-0.217586	0.176188	0.048990	0.191956	0.130138	0.293398	0.127220
76	0.320975	0.077022	-0.327789	0.319035	0.261907	0.296805	0.303351	0.283365	0.507887	0.070660
77	1.186594	0.288657	0.151424	0.350395	-1.355828	1.534134	0.188551	0.283365	0.355365	-0.034854



	1	2	3	4	5	6	7	8	9	10
	ANTNF	ACCNO	CONS	ORDAT	SUPDEC	WESLEV	EZUND	LJWVZ	SPKGRA	PMPDON
78	-0.625728	0.468710	0.275939	0.374463	-2.225977	-0.347330	-1.773103	-1.660624	-1.042738	0.059585
79	-0.322609	-0.194655	0.130123	0.280823	0.156287	0.452498	-0.680930	-2.680930	-0.185260	0.454072
80	-0.374114	0.497020	0.211218	0.158590	0.052546	-0.508139	-0.101327	0.215768	0.577923	0.472910
81	-0.236345	-0.663455	-1.794714	-1.638101	-0.292474	0.080616	-1.782875	0.299790	-0.533421	0.472910
82	-0.450016	0.013708	0.329770	0.384967	0.337372	0.699152	0.255371	0.356122	0.498476	0.566849
83	-0.253083	0.558858	0.328646	-0.142907	0.280559	-0.125359	-0.007173	-0.841348	-0.380771	0.214831
84	-0.726223	-0.083969	-0.150474	0.334882	-0.095081	-0.883094	0.070472	-0.328021	-0.528217	-0.230236
85	-0.116311	0.067324	-0.038442	-0.334590	-0.453632	0.251937	0.633982	0.374671	-0.116775	0.555386
86	-0.799851	0.625666	0.382508	0.439025	0.415337	0.613559	0.307015	0.542364	0.267587	-0.087429
87	-0.017078	0.152777	0.048993	0.059671	-0.345256	0.080054	0.162959	-0.644509	-0.482078	-0.511330
88	0.259433	0.312322	0.215419	0.275814	-0.190283	0.498419	-0.735445	0.391416	-0.175560	-0.537351
89	0.268419	0.237230	0.186042	0.006146	0.373169	0.511974	0.332276	0.092305	-0.521671	-0.075403
90	0.228881	0.269669	0.068227	-0.073831	0.039829	0.407857	0.326537	0.099971	0.433345	0.123280
91	0.259216	-0.392445	0.073831	-0.245244	0.039829	-0.047034	0.152699	0.326215	-0.142590	0.599235
92	-0.043395	-0.053386	0.034105	0.123238	0.411791	-0.019933	-0.247132	-0.043491	0.194203	0.118615
93	0.230388	0.315809	-0.540462	0.192568	0.411116	0.445516	-0.130897	0.123230	0.216621	-0.080623
94	0.365540	0.319111	0.147084	0.265595	0.460047	0.504655	0.161034	0.269591	0.674633	-0.324830
95	0.055418	0.499164	0.271569	-0.710337	0.593898	0.113680	0.190280	0.325922	0.499330	0.069548
96	-0.073585	-0.302187	0.231245	0.108379	-0.131643	-0.099711	-0.180012	-0.148012	-0.221746	-0.245628
97	-0.151413	-0.179838	-0.436351	0.143790	0.181120	-0.034672	-0.227407	0.127705	-0.358378	-0.217538
98	0.941021	-0.428356	-0.264247	0.644048	-0.593791	0.728721	-0.239411	0.328867	0.322867	0.490059
99	0.310806	0.408279	0.254633	0.611075	-0.178193	0.525549	-0.001992	0.106588	0.147012	0.542546
100	-0.027501	0.194141	0.346732	0.036405	0.307799	0.408665	0.230911	-0.360024	0.591169	0.587887
101	0.275618	-0.302558	-0.465721	-0.390568	-1.476604	0.208493	0.522841	0.613569	-0.551353	-0.184293
102	-0.016599	-0.031713	-0.082456	-0.017794	-0.143652	-0.023358	-0.109661	-0.195823	-0.076366	-0.219179
103	-0.069604	0.035966	0.009811	0.042142	0.022977	-0.111127	-0.123160	0.023704	0.030790	-0.156914
104	-0.139177	0.101528	-0.073619	0.123407	-0.154694	0.068774	0.033318	0.172231	0.257127	-0.115955
105	-0.063351	0.043263	0.142207	0.051058	0.128538	-0.110494	0.176021	0.215443	-0.045718	-0.313434
106	0.010196	0.182550	0.205259	0.058007	0.332149	0.004479	-0.054600	0.035574	-0.035974	0.058128
107	-0.159448	-0.110215	0.048085	0.076169	0.158823	-0.025956	0.252999	0.151278	0.037125	0.063380
108	-0.356153	-0.372191	-0.196996	-0.059184	0.153355	0.113319	-0.585565	-0.785144	0.134482	-0.399324
109	0.313636	0.297778	0.357218	0.183510	0.462243	0.213147	0.106364	0.138783	0.375293	0.165349
110	0.056116	-0.019650	-0.022453	-0.049861	0.349215	0.051598	0.347153	0.114762	0.069619	0.172643
111	-0.252960	0.097472	0.026882	-0.155696	-0.080716	0.094428	-0.006446	0.070365	-0.048512	-0.140188
112	-0.201833	0.165202	-0.041829	-0.231114	-0.275640	0.094580	0.182635	0.277232	0.379372	0.393215
113	-0.188158	0.019381	0.099897	-0.026508	0.115396	-0.202083	-0.088600	-0.129039	-0.318771	0.280702
114	-0.136354	-0.110547	-0.130924	-0.065957	0.323333	-0.067654	-0.347875	-0.092302	-0.049436	-0.010799
115	0.122436	-0.152173	-0.071967	-0.000284	0.169132	0.063004	0.151038	0.037589	0.254959	-0.395978
116	0.136261	0.220477	-0.214563	-0.001061	0.171899	-0.125913	-0.009473	-0.173160	0.080458	0.006698
117	0.010808	0.057062	0.139650	-0.023272	-0.231551	0.102486	-0.336591	0.163677	0.080794	-0.027387
118	0.191356	0.125165	-0.024551	-0.309447	0.184841	0.043718	-0.177105	-0.042397	0.244323	-0.345583
119	-0.391539	-0.152491	0.186425	-0.208801	-0.238534	-0.077882	-0.100063	0.293839	-0.251801	0.008194
120	-0.703861	0.572438	0.111290	-0.064733	0.168383	-0.959347	0.248309	0.750171	-0.554302	0.08194
121	-0.134076	0.244197	-0.157830	0.130516	-0.016017	-0.281741	-0.548650	0.107642	-0.198824	0.202902
122	-0.427617	-0.616508	0.257523	-0.403710	0.669975	0.1595931	0.239809	0.329919	0.545334	0.026322
123	-0.069322	0.102931	-0.209982	0.121225	0.172563	0.298183	0.103469	0.036773	0.300243	-0.101350
124	-0.115795	-0.107493	-0.559334	-0.078297	-0.498117	-0.131400	0.038537	0.110585	-0.206985	0.299019
125	0.471883	-0.027439	0.615151	-0.408229	0.581734	-0.062865	0.276783	0.366916	0.234912	0.393457
126	0.150002	-0.190805	-0.530635	0.502131	0.453999	0.236964	0.235380	0.596610	0.217390	0.737944
127	-0.014285	-0.071591	-0.154491	-0.018082	0.179684	0.221729	0.303657	-0.111735	-0.037192	0.024508
128	0.081426	-0.101623	0.018241	0.117908	-0.017503	-0.045110	0.036328	0.149440	-0.030825	0.148525
129	0.202437	-0.210459	0.342725	-0.080246	0.658466	0.140092	0.096796	0.005772	-0.887817	-0.512493

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTND	ACCNO	COMSAT	DRSAT	SJDEC	MESLEN	EZUND	LDNYZ	SPKGRA	PMPCON
130	-0.169444	-0.211324	0.009439	0.163614	-0.134270	0.377420	-0.057107	-0.114534	-0.074089	-0.205506
131	-0.066084	1.345371	0.289038	0.378777	0.760055	-0.844630	1.288296	1.395520	-3.466181	1.227138
132	-0.065247	-0.318991	0.055796	-0.126487	-0.460690	-0.126527	-0.355784	-0.245087	0.109286	-0.183626
133	0.215504	0.004486	0.072102	0.206130	-0.438036	0.168038	-0.412974	-0.233814	-0.263499	-0.749667
134	0.353182	0.184540	-0.603414	-0.419743	0.171815	0.118185	-0.422517	0.422517	0.328598	0.594771
135	-0.260366	-0.312159	-0.249220	-0.180049	0.334079	-0.055264	-0.216133	-0.181122	-0.169124	-0.260742
136	0.197429	0.195579	-0.135221	0.138278	0.583255	-0.077065	-0.033725	0.131072	0.273842	-0.090752
137	-0.081236	0.147550	-0.058335	-0.026211	0.067020	-0.081892	0.088840	-0.203073	0.079700	0.178228
138	-0.115313	0.110498	-0.368081	-0.011015	-0.329445	-0.269278	-0.017651	0.179057	0.247255	0.342404
139	-0.118821	0.072133	0.048652	-0.020125	-0.372180	0.124301	0.003446	0.175637	-0.020267	0.124391
140	-0.210186	-0.057620	-0.05376	0.055376	0.007503	-0.275088	-0.164592	-0.126908	-0.330548	-0.171400
141	-0.224790	0.317113	0.311315	-0.085883	0.604054	-0.070498	-0.539177	-0.385309	0.050739	-0.419771
142	0.129554	-0.469504	-0.344220	0.071518	-0.466095	-0.285296	-0.862311	-0.862311	0.124030	0.276668
143	-0.067327	-0.204297	0.432871	0.320736	-0.526688	-0.199753	-0.366295	-0.174525	-0.095124	-0.287989
144	-0.025194	-0.216270	0.008206	0.020955	-0.133832	0.116944	-0.039536	-0.041834	0.056807	0.207096
145	0.082957	0.122687	0.312574	-0.068040	0.130785	0.016230	0.189958	-0.008735	0.087659	0.205858
146	-0.047034	0.090334	0.056231	-0.102644	-0.239364	0.060518	-0.076307	0.090830	0.046098	0.097289
147	-0.034208	0.040522	-0.027284	-0.130189	-0.087869	-0.044562	0.124048	0.189571	-0.034153	0.037563
148	0.391587	-0.196633	-0.040313	0.304525	0.642226	0.482939	0.672336	0.554292	0.524876	-0.231454
149	0.228039	-0.093391	0.213900	-0.122448	0.211157	0.482767	-0.435734	-0.330681	-0.304312	0.336366
150	-0.132721	-0.246435	-0.178129	-0.202201	-0.077019	-0.190332	-0.076422	-0.170514	-0.352142	0.131501

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	11	12	13	14
	EZCOMP	CLRPIC	NOTAMS	HRLJP
1	-0.441456	0.293726	-0.034530	0.269908
2	0.143340	0.375680	-0.200002	0.524537
3	0.287699	0.469809	0.928335	0.617488
4	-0.405282	-0.170459	-0.737138	-0.572328
5	-0.603184	-0.097960	-0.169999	-0.223096
6	0.158212	0.382299	-0.205940	0.490224
7	0.046205	0.038805	0.150385	-0.045401
8	0.075445	0.009647	-0.237310	-1.235216
9	0.219804	-1.562820	-0.108974	0.475599
10	0.026823	0.296842	-0.274446	0.316585
11	-0.468079	-1.130640	-0.707307	0.350484
12	0.138942	0.335733	0.460554	-0.172865
13	0.283299	0.489668	-1.377776	0.586953
14	0.090317	0.349600	-0.243249	-0.602863
15	-0.210315	0.107846	-0.087535	-0.064687
16	-0.495497	0.318859	0.057536	0.168575
17	-0.084462	-0.153678	0.029175	0.161525

18	-0.072345	0.245219	0.097508	-0.379058
19	-0.236676	-0.595050	-0.067964	-0.268874
20	0.379033	0.499080	0.080372	-0.175923
21	0.186051	0.358811	0.105100	-0.365738
22	0.378619	0.541343	0.130710	0.063550
23	-0.088349	-0.001776	-0.124843	-3.157774
24	0.103285	0.605208	0.149245	0.146916
25	0.747644	0.413623	0.241867	0.168439
26	-0.231052	0.059069	-0.245034	-3.449948
27	-0.943751	-0.684383	-0.103267	-0.281904
28	0.065643	0.041932	0.119024	0.416090
29	-0.196857	-0.264112	0.157455	-3.180142
30	-0.048510	0.159446	0.024259	0.041175
31	0.310724	0.175310	0.093402	0.303797
32	0.033821	0.082111	-0.065030	-0.011623
33	-0.011684	-0.035243	0.015989	3.071862
34	-0.292270	-0.288411	0.039416	0.134255
35	0.131170	0.058162	0.031839	0.012228
36	-0.258849	-0.249908	-0.173684	3.044901
37	0.119598	0.324109	-0.134665	-0.287772
38	0.263957	0.418239	-0.006329	-0.194821
39	0.027393	0.028588	-0.005289	-0.068165
40	-0.195056	-0.133820	0.028378	0.010812
41	0.184180	0.051796	0.068589	0.032815
42	0.080058	0.369087	0.205504	0.224962
43	0.376074	0.517136	-1.687996	-1.035405
44	0.183092	0.376867	-0.103468	-0.225220
45	0.134470	0.330728	0.859396	0.677915
46	0.058007	0.049841	-0.025418	3.037777
47	-0.011760	-0.088047	0.023991	0.016033
48	0.120098	-0.235584	0.048161	0.319484
49	0.027727	-0.067326	-0.120360	-0.059356
50	-0.068527	-0.006736	0.011296	-3.023575

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTANS	14 HRLUP
51	0.057851	0.078541	0.017511	-3.021199
52	0.197482	-0.224493	-0.045642	0.632035
53	0.055035	0.089784	0.213128	-0.072932
54	3.308179	-0.515563	0.024696	-0.128492
55	-0.146259	0.016196	-0.080126	-0.060813
56	-0.023918	-0.130284	0.019930	-0.155908
57	-0.041781	-0.139834	-0.246383	-0.578007
58	0.147851	-0.212229	0.013485	-3.206737
59	0.340419	0.440891	0.131648	0.379414
60	0.291796	0.394752	0.094512	0.949216
61	0.098815	0.254483	-0.070950	-3.243600
62	-0.136794	0.112909	0.155284	0.042948
63	-0.093301	-0.087188	0.075282	0.165098
64	-3.995673	-0.148614	0.092507	0.269160
65	0.211345	-0.688883	0.177035	-0.070656
66	-0.062001	0.069602	0.129631	0.015865
67	0.128579	-0.186534	0.187332	-0.004430
68	0.000210	0.002292	-0.157817	-3.286479
69	-0.120044	0.050660	-0.066471	-0.026295

70	0.772524	0.908192	0.594340	0.452994
71	-0.587124	0.267923	0.252221	0.096512
72	0.089400	-0.126083	-0.066756	0.235776
73	-0.122212	0.067414	-0.015995	0.054551
74	0.436432	0.818687	0.255199	-0.123927
75	0.093451	-0.078418	-0.110273	-0.263763
76	-0.173937	-0.305667	0.017497	0.266057
77	0.133082	0.429365	-0.147975	-0.548759
78	0.277441	0.523194	-0.019539	-0.455808
79	-1.915541	0.382926	-0.185111	-0.145624
80	-0.277109	-1.044576	0.715361	0.036942
81	-0.803424	-1.518178	-0.116778	0.513793
82	0.340935	0.575952	0.511558	0.106744
83	0.258169	-0.320509	0.123046	-0.023459
84	-0.131479	0.229699	0.148050	0.358154
85	0.216565	-0.469773	0.177581	-0.138710
86	0.654996	0.756059	0.678052	0.277188
87	-0.314175	0.163429	0.131628	0.134992
88	-3.919941	0.402984	-0.131222	0.323841
89	0.035721	0.227664	0.163792	-0.078412
90	0.391691	0.328654	-0.047135	-0.020106
91	-0.058356	0.136571	-0.039737	0.351866
92	-0.054368	-0.057228	0.082396	0.081747
93	-0.028467	0.375303	-0.015127	0.261036
94	0.111885	0.401701	-0.013932	-0.262113
95	0.256244	-0.504169	0.114434	-0.169162
96	0.322159	-0.115682	-0.231418	-0.247592
97	0.367273	0.172621	-0.158795	0.086402
98	-0.297892	-0.114202	0.112399	0.084115
99	0.175793	0.412196	-0.053073	0.360966
100	0.368361	0.594728	0.182737	-0.009746

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	11 EZCOMP	12 CLRPIG	13 NOTAMS	14 HRLJP
101	0.175380	-1.212208	-0.316069	-0.199561
102	-0.049758	-0.092693	0.029934	-0.001423
103	-0.049830	0.053551	-0.042426	-0.044027
104	0.172869	-0.016863	-0.085139	0.111272
105	-0.035596	-0.023261	0.008421	-0.164673
106	-0.048742	0.080699	0.342933	0.072711
107	-0.042966	-0.022302	-0.051241	0.036104
108	-0.144984	-0.703535	-0.089571	0.404418
109	-0.004532	0.522863	0.111624	0.047935
110	0.081210	0.102490	0.124422	0.096023
111	0.107740	-0.110949	-0.053246	0.089134
112	0.195617	-0.154445	-0.188067	0.289273
113	-0.155259	-0.024012	-0.072838	0.346826
114	0.027739	-0.110699	-0.109117	-0.266459
115	0.137485	0.073934	0.023435	-0.031779
116	-0.176728	-0.484111	0.535864	0.371731
117	-0.226852	-0.124379	0.014249	0.253344
118	-0.648643	-0.121218	0.049631	-0.099575
119	0.158375	0.381370	-0.115841	0.096324
120	-0.297265	0.075500	-0.412495	-0.210725
121	-0.334691	0.001898	0.180357	-0.267208



122	-0.697579	-1.492237	0.082833	-0.171252
123	0.003087	-0.190309	0.198475	0.101632
124	-0.178130	0.234128	0.113356	-0.411125
125	0.366229	0.278258	-0.206307	0.401826
126	0.673248	0.137989	0.128220	-0.287989
127	0.209389	0.081533	0.049360	-0.167688
128	0.023815	0.193116	0.069073	0.041208
129	-0.363150	0.462801	0.175187	0.096188
130	-0.145641	-0.072668	0.122215	-0.006128
131	1.234427	1.485064	1.045525	0.735661
132	-0.337254	-0.58302	-0.682795	-0.344396
133	0.203976	0.301429	0.028348	-0.134211
134	0.048334	-0.254441	0.006384	0.058740
135	-0.061314	-0.061376	-0.075754	-0.047743
136	0.033043	0.075075	0.342750	0.291715
137	0.186215	0.147357	-0.067632	0.061614
138	0.205574	0.077013	0.113336	-0.141688
139	-0.112437	-0.188256	-0.114636	-0.081504
140	0.299834	-0.306233	0.181659	0.321300
141	-0.083624	0.410641	-0.317136	0.369580
142	-0.205931	-0.895229	0.144533	0.195864
143	0.201087	-0.064069	0.437533	0.177477
144	-0.026933	0.068394	0.142576	-0.012910
145	0.278847	-0.043237	-0.039150	0.086748
146	0.262480	-0.082686	-0.004599	-0.288346
147	0.005596	0.048276	-0.166367	0.060153
148	0.262266	0.061577	0.746366	0.679498
149	0.269285	-0.012525	-0.019106	0.356549
150	-0.458937	-0.148456	-0.327851	-0.283692

RAW RESIDUALS - ROWS ARE FULL CELLS - COLUMNS ARE VARIABLES

	11	12	13	14
	EQCWP	CLRPTC	NOTAMS	HRLUP
151	-0.008661	0.044609	-0.153958	-0.056841
152	0.138474	0.347072	0.294725	0.390277
153	-0.022054	0.024111	-0.032606	-0.025500
154	-0.340925	-0.318599	-0.322437	-0.724417
155	0.132779	0.374066	0.012391	0.752434

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTNFO	ACCNFO	CONSAT	OROSAT	SUPDEC	MESLEN	EZUND	LOMYZ	SPMGRA	PMPCDN
1	-0.224771	-0.655317	-1.117362	-0.695825	0.142502	-0.545129	-0.679342	-0.480893	-0.183094	-0.884580
2	-0.597730	0.311846	0.095745	-0.807030	0.829140	-0.580096	0.227631	0.298658	0.116903	0.063607
3	0.999180	-4.104075	0.236035	0.409136	1.433501	0.587236	0.268552	0.356631	-0.603262	0.152553
4	-0.885641	-0.246870	-0.431745	-0.295860	-0.118765	-0.665293	0.759349	0.850307	-1.853528	0.996072
5	0.445595	0.340048	0.320741	-0.683351	-0.276477	0.286099	0.302412	0.165265	-0.502761	0.484247
6	-0.246130	0.383157	0.132438	0.310406	0.421785	-0.094971	-0.815458	0.352967	0.380182	1.474375
7	-0.135068	-0.057039	-0.205406	0.473335	0.015709	0.034076	0.204920	0.148078	0.511955	0.373870
8	-1.053548	0.267893	0.131171	-0.429532	0.115947	-0.406744	0.279521	-0.330219	0.355993	0.064845
9	-0.659958	-0.679978	0.271461	0.390713	0.580406	-0.456975	0.320452	0.413853	-0.637748	-1.731923



10	0.232111	0.287185	0.107165	0.279509	0.447435	0.377746	0.276143	-1.665342	-0.733712	0.254423
11	0.360028	0.123426	0.356167	-0.305913	-0.369964	0.372482	0.715890	-0.635137	0.192288	1.271243
12	0.696719	0.319912	0.191871	-1.208840	-0.782778	0.163578	-0.667125	-0.656035	0.401094	-0.085457
13	0.020447	0.528057	0.332161	0.784396	1.580721	0.113347	-2.859653	0.501558	0.521058	-2.195528
14	0.316244	-1.972829	0.157864	0.291983	-1.410839	0.426256	0.306415	0.410188	0.345695	0.532706
15	-0.011662	0.211976	0.166281	0.312225	-0.000575	0.219532	-0.374830	0.131146	0.115770	-0.195519
16	-0.237469	0.378821	0.175364	0.292373	-0.224241	0.164426	0.388915	-0.097553	0.390693	-0.802727
17	0.174634	-1.031457	0.135133	0.320956	-0.387524	0.010167	-0.604873	-0.702597	-0.175326	-0.336518
18	0.102377	0.420722	0.062270	-0.415257	0.345449	0.175121	-0.035726	0.020235	0.688510	-0.036354
19	0.494625	0.430840	0.236043	0.304847	0.316290	0.940811	1.311215	0.285812	-0.020794	0.737530
20	-0.407685	0.540131	0.212057	0.333530	0.440886	-0.379107	0.281954	0.343785	0.370396	0.608041
21	0.738034	0.581923	0.121057	0.222225	0.327915	0.455613	0.237644	0.322887	0.637579	0.520794
22	-0.026655	0.258748	0.115018	0.403525	0.346458	0.680661	0.272856	0.322943	0.081283	0.650341
23	0.058570	0.334868	0.210793	0.385155	0.307290	0.182448	0.059783	0.109202	0.370396	0.608041
24	0.625932	-0.034995	0.351080	0.235014	0.479015	0.944447	0.196213	-0.556327	0.357274	0.141419
25	0.486585	0.388993	0.126233	-0.253112	-0.253112	-1.993540	-0.231725	-0.645375	-1.194686	0.466193
26	0.442210	0.303099	0.126233	-0.253112	-0.253112	-1.993540	-0.231725	-0.645375	-1.194686	0.466193
27	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
28	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
29	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
30	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
31	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
32	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
33	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
34	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
35	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
36	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
37	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
38	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
39	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
40	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
41	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
42	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
43	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
44	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
45	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
46	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
47	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
48	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
49	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240
50	0.096444	-0.988282	-0.293427	0.231092	0.263276	0.422462	-1.890420	-0.687115	-0.692276	0.074240

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTVF	ACCNFO	COMSAT	OROSAT	SUPDEC	MESLEN	EZUND	LONYZ	SPCGR	PMPCDN
51	0.139358	-0.039206	0.119846	0.033266	0.133291	-0.078412	-0.122493	0.026575	0.017633	-0.205353
52	-0.489827	0.352043	0.121597	-0.698991	-0.133513	-0.536964	0.017108	-0.129553	0.607490	-0.704693
53	0.121748	-0.151513	-0.236219	0.029510	0.212044	0.050228	0.005229	-0.015311	-0.033916	-0.506550
54	-0.515571	-0.726589	0.311530	0.426734	-0.438176	-0.405061	0.364742	0.421354	0.398235	0.303548
55	-0.368051	0.045314	-0.53224	0.081340	0.123183	-0.382915	-0.066216	-0.048590	-0.357539	0.071994
56	0.265733	-0.221624	0.068241	-0.012366	0.081655	0.139448	-0.185306	-0.033532	0.104169	0.042282
57	-0.125750	-0.250921	-0.077922	-0.091003	-0.658649	0.121794	-0.130155	-0.375359	-0.052968	-0.122499
58	-0.032832	-0.07460	0.258546	-0.395641	0.035948	-0.127249	-0.336486	-0.288618	-0.051902	0.511883
59	0.122812	0.873676	0.295023	0.344503	0.633135	0.397599	-0.391432	0.659868	-0.257209	0.187138
60	1.223445	0.507628	0.271016	0.261880	0.291889	-0.509411	0.261920	0.353894	-0.010499	0.018847
61	0.449280	0.318776	0.136723	0.153676	0.178917	-0.196503	0.217611	0.332995	-0.059947	0.144327

	1	2	3	4	5	6	7	8	9	10	11	12
	ANTNF	ACCNF	CONS	ORDSAT	SUPDEC	MESLE	ETUM	LJNYZ	SPKRA	PMPON		
62	-0.159568	0.038579	0.122370	0.064995	-0.019009	-0.252931	-0.075925	-0.262726	-0.316947	-0.030606		
63	-0.036484	0.190603	-0.037984	0.258298	-0.062270	0.035447	0.204482	0.182371	0.106978	0.067351		
64	-0.394132	-0.333396	-0.034550	-0.188152	-0.332148	0.338889	0.090830	-0.468624	0.183224	-0.398370		
65	0.230982	0.113560	0.251930	0.175676	0.322505	0.182167	0.260359	0.333996	0.355553	0.161676		
66	0.097458	0.016914	0.094491	-0.116906	0.120894	0.137674	-0.198101	0.005359	0.105069	0.085166		
67	0.164358	-0.001703	0.039357	-0.094235	0.163225	-0.049080	-0.049022	-0.049022	-0.234389	-0.359218		
68	0.498754	0.075076	0.330953	0.363966	0.324976	0.600569	0.228996	0.114206	0.382186	0.001601		
69	-0.054422	-0.011312	0.057612	0.055710	0.132260	0.106983	0.214429	0.142626	0.057104	0.156066		
70	0.962875	-0.133624	0.330449	0.326079	0.592820	0.168825	0.317189	0.374340	0.563148	0.572723		
71	0.051625	0.255531	0.156153	0.214875	-0.066116	0.235984	0.629611	0.010093	0.387185	-1.472183		
72	-0.063245	0.028983	-0.036598	0.027194	-0.274784	0.171918	0.116912	0.117754	0.258852	-0.155747		
73	-0.012431	0.108116	0.085969	0.104152	-0.232824	0.045507	0.040636	0.001292	-0.123788	-0.109515		
74	-0.178555	0.011806	-0.445172	-0.020886	0.162958	0.051128	0.205430	0.133931	0.321066	-0.119957		
75	0.358525	0.089039	-0.369407	0.378880	0.251308	0.509754	0.513751	0.312193	0.555782	0.066626		
76	1.318315	0.333692	0.170650	0.416123	-1.300958	1.501060	0.501893	0.291295	0.399823	-0.352364		
77	0.695031	0.541836	0.310940	0.444706	-0.135891	-0.362483	0.1987561	-1.709028	-1.141073	0.056183		
78	-0.358340	-0.225025	0.146644	0.335051	0.149962	0.472238	0.198515	-2.759074	-0.202731	0.428148		
79	-1.526335	0.574563	-0.355664	-0.251920	0.152172	-0.054838	-0.436787	-0.013523	0.236116	0.344329		
80	-0.263984	-0.770306	-2.022593	-1.946569	-0.280642	0.084133	-1.908020	0.308529	-0.649383	0.445439		
81	0.498858	0.015847	0.371640	0.457180	0.323718	0.729582	0.273296	0.366502	-0.454885	0.534489		
82	-0.281114	0.643737	0.370373	-0.169714	0.269205	-0.128782	-0.007576	-0.653734	-0.416679	0.202566		
83	0.029131	0.097070	-0.159579	0.397700	-0.095071	0.921619	0.075418	-0.337582	-0.030627	-0.188776		
84	-0.129193	0.077828	-0.043323	-0.397472	-0.435274	0.262927	0.678482	0.385592	-0.127787	0.523677		
85	0.887329	0.723280	0.431073	0.521379	0.398528	0.440326	0.328565	-0.558173	0.292821	-0.082438		
86	-0.018959	0.176613	-0.055214	0.070865	-0.331283	0.083547	-0.174398	-0.663398	-0.527543	-0.765532		
87	0.288147	0.361049	0.242770	0.327552	-0.192582	0.520162	-0.789315	-0.402826	-0.192116	-0.506672		
88	0.256231	0.311742	0.209663	-0.072799	0.070207	0.534205	0.334542	0.094995	-0.570867	-0.071098		
89	0.287926	-0.442113	0.083235	-0.037448	0.038217	-0.425499	-0.163417	-0.335724	0.674211	-0.110151		
90	0.048202	-0.061715	0.038435	0.146355	0.136052	-0.020503	-0.264879	-0.044759	-0.212517	0.111863		
91	0.255572	0.365080	-0.609083	0.228690	0.394478	-0.464952	0.127882	0.127882	0.237050	0.075020		
92	0.407137	0.368897	0.155759	0.315416	0.441429	-0.526671	0.172337	0.277449	0.445855	-0.023469		
93	-0.060223	0.377041	0.306049	-0.843585	0.566025	-0.118848	0.213268	0.335422	0.946419	0.065578		
94	-0.081735	-0.349333	0.260605	0.225415	0.103993	-0.200004	0.106710	0.152325	-0.242658	-0.231805		
95	-0.168189	-0.207895	-0.694007	0.170762	0.173790	-0.036185	-0.243369	0.131428	-0.424675	-0.215791		
96	1.045245	-0.495187	-0.300052	0.764861	-0.563760	0.758424	0.256426	0.336422	0.353315	0.611060		
97	0.345230	0.471977	0.286963	0.495311	-0.170982	0.553882	-0.002132	0.109695	0.160875	0.511570		
98	-0.030567	0.224430	0.390755	0.043234	0.295342	0.426493	0.247119	-0.370519	0.646919	0.554323		
100												
101	0.306144	-0.343762	-0.524852	-0.463832	-1.416845	0.217589	0.559540	0.637732	-0.633348	-0.173771		
102	0.016215	-0.036661	-0.023226	-0.321369	-0.137838	-0.024377	-0.117380	-0.201531	-0.083568	-0.206571		
103	-0.077313	-0.041578	0.011057	0.050048	0.222047	-0.115975	-0.132218	0.024395	0.033693	0.147956		
104	-0.154592	0.117368	-0.082967	0.146556	-0.100457	0.069687	0.035978	0.177220	0.226660	-0.109335		
105	0.073710	0.052321	0.150263	0.063636	0.123336	-0.115315	0.190517	-0.221723	-0.050029	-0.212639		
106	0.011326	0.211031	0.231319	0.058889	0.366683	0.004674	0.062713	0.037022	-0.123123	0.054809		
107	-0.172664	-0.127410	0.054190	0.090457	0.152396	-0.028132	0.270758	0.155688	-0.040626	0.059762		
108	-0.395595	-0.430258	-0.222008	-0.070286	-0.147148	0.118262	-0.626669	-0.808029	0.147164	-0.373335		
109	0.348373	0.344236	0.402572	0.214371	0.443356	0.222446	0.113830	-0.142828	0.410685	0.155909		
110	-0.062332	-0.022716	-0.025304	-0.059214	0.047223	0.053953	0.350462	0.118107	0.076185	0.162786		
111	-0.169921	0.112680	0.030295	-0.184902	0.099591	-0.006898	0.050462	0.212108	-0.053087	-0.132184		
112	-0.224154	0.190976	-0.047142	-0.274468	-0.264485	0.098706	0.195455	0.285313	0.414820	0.364165		
113	-0.208998	0.022404	-0.112580	-0.031481	0.110726	-0.210898	0.394820	-0.1132801	-0.144307	0.264676		

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	AMTND	ACCNO	CONSAT	ORDSAT	SUPDEC	MESLEV	EFUND	LVVYZ	SPKGRA	PMPCON				
114	-0.151455	-0.127794	-0.147546	-0.075954	-0.310248	-0.070605	-0.051235	-0.094393	-0.054398	-0.310182				
115	0.136063	-0.175915	-0.081104	-0.000337	-0.162287	-0.065753	-0.161640	-0.038685	-0.289946	-0.363847				
116	0.151353	0.254817	-0.241805	-0.001260	-0.164942	-0.131406	-0.310138	-0.178207	0.080466	0.006315				
117	0.012006	0.065964	0.157381	-0.027637	-0.222180	-0.106957	-0.360217	-0.158448	0.088413	-0.025824				
118	-0.212171	-0.144687	-0.227558	-0.367495	-0.177361	-0.045625	-0.044251	-0.04251	0.267363	-0.042986				
119	-0.434905	-0.174282	-0.210523	-0.105459	-0.228881	-0.081280	-0.010769	-0.302404	0.275547	-0.384937				
120	-0.781818	-0.661747	-0.128420	-0.074876	-0.161571	-1.001198	-0.772337	-0.608764	-0.081273	-0.081273				
121	-0.148925	0.305416	-0.189139	0.154999	-0.015369	-0.294031	-0.373122	-0.110780	-0.217574	0.191318				
122	-0.474978	0.172809	0.290309	-0.719331	0.642861	0.162733	-0.256441	-0.339536	0.596761	0.024536				
123	0.376999	0.118990	0.236643	-0.143964	-0.165577	-0.311191	0.110732	-0.037845	-0.226524	0.281947				
124	-0.128620	-0.124263	-0.630350	-0.092985	-0.477958	-0.137133	0.041242	0.113808	-0.226524	0.281947				
125	0.524147	-0.031720	0.593255	-0.482056	0.558191	-0.065607	0.296211	0.377611	0.237066	0.088122				
126	0.166615	-0.220573	-0.598008	0.596323	0.445221	-0.247301	0.251902	-0.614000	0.237891	0.595813				
127	-0.015857	-0.092761	-0.174107	-0.021474	0.172412	0.231401	0.003914	-0.114992	-0.040699	0.231339				
128	0.090444	-0.117478	0.320556	-0.095299	-0.016795	-0.047078	0.038878	0.153796	-0.093990	0.140139				
129	-0.224858	-0.243294	0.386240	-0.010637	-0.128836	-0.166203	-0.103591	0.005940	-0.971542	-0.483233				
130	-0.188211	-0.244294	0.010637	-0.194305	-0.128836	-0.393885	-0.061115	-0.117873	-0.081076	-0.193773				
131	-0.072473	1.555271	0.325735	-0.449830	-0.729296	-0.881477	1.378725	1.425905	-3.814943	3.588583				
132	-0.272473	0.368758	-0.062880	-0.150214	-0.393655	-0.132047	-0.380757	-0.252231	-0.119592	-0.173144				
133	-0.239172	0.005186	0.081256	-0.244867	-0.391523	-0.175369	-0.441954	-0.454543	-0.288348	-0.706867				
134	-0.289204	-0.21331	-0.280840	-0.498479	-0.164861	-0.48912	-0.231304	-0.134892	-0.206959	-0.245856				
135	-0.219517	0.230717	-0.152389	-0.164217	-0.521078	-0.080427	-0.336092	-0.184602	-0.087216	-0.353314				
136	-0.093234	0.170570	-0.065742	-0.031128	0.064308	-0.085465	-0.095076	-0.215167	-0.087216	-0.353314				
137	-0.129192	0.083387	0.054830	-0.023900	-0.369259	0.129723	-0.303688	-0.180756	-0.221178	-0.117289				
138	-0.124206	0.066610	-0.289837	0.065763	0.007200	-0.287089	-0.178145	-0.396341	-0.055324	-0.395805				
139	-0.233466	0.019779	0.350842	-0.131993	0.579607	-0.073573	-1.545455	-0.887446	-0.135727	0.258986				
140	-0.143903	-0.542754	-0.410441	0.084936	-0.447232	-0.297742	-0.577023	0.179512	-0.104094	-0.271547				
141	-0.074784	-0.236171	0.487831	0.380901	-0.505373	-0.208467	-0.070948	-0.043054	0.052164	-0.338457				
142	-0.027985	-0.250011	0.009247	-0.024886	-0.128416	-0.122046	-0.042312	-0.043054	0.095926	0.194105				
143	-0.092145	0.141828	0.314170	-0.080803	0.125492	0.016939	-0.203292	-0.008989	0.093477	0.091735				
144	-0.052243	0.104428	0.063371	-0.121899	-0.229677	0.063158	-0.281663	0.093477	-0.037374	0.235419				
145	-0.037997	0.045844	-0.030748	-0.154611	-0.084313	-0.067378	0.132756	0.195097	-0.037374	0.235419				
146	0.434958	-0.227380	-0.045432	0.361649	0.635425	-0.504307	0.719529	0.572507	0.552488	-0.086233				
147	0.253296	-0.107962	0.241058	-0.145417	0.202611	0.503828	-0.666319	-0.340319	-0.333010	0.317162				
148	-0.147421	-0.284883	-0.200746	-0.240131	-0.073902	-0.198635	-0.081785	-0.175484	-0.395351	0.123993				

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	AMTND	ACCNO	CONSAT	ORDSAT	SUPDEC	MESLEV	EFUND	LVVYZ	SPKGRA	PMPCON				
151	0.034998	0.196020	0.144776	0.162342	0.140585	0.000385	0.086244	-0.216901	0.060120	-0.057814				
152	0.289744	-0.135803	0.456123	0.155580	-0.070991	0.386551	-0.070301	-0.109821	-0.197571	-0.245588				
153	-0.096268	-0.093806	0.102193	-0.192823	-0.235236	-0.119217	-0.015137	-0.117525	0.021757	-0.018175				
154	-0.462077	-0.445099	-0.473084	-0.615530	-0.103398	-0.430258	-0.391538	-0.645237	-0.223139	0.109198				
155	0.244855	0.329395	0.301758	-2.112248	-2.295350	-0.230381	0.277615	0.363013	-0.135525	-0.4511745				

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	11	12	13	14
	EZCOMP	CLERIC	NOTAMS	HLRUP
1	-0.476057	0.325871	-0.041925	0.342935

2	0.156575	0.416793	-0.242835	3.666456
3	0.310248	0.521224	1.127148	0.784556
4	-0.437048	-0.189114	-3.855004	-0.727177
5	-0.647225	-0.108681	-0.256406	-3.283456
6	0.170612	0.424136	-0.250045	0.622860
7	0.049826	0.043052	0.182591	-0.057685
8	3.081359	0.010703	-0.288133	-1.569418
9	0.237032	-1.733928	-0.132312	-0.604277
10	0.028925	0.329327	-0.332222	0.425111
11	-0.720442	-1.254336	-0.858786	0.445312
12	0.149830	0.439047	0.559137	-3.219381
13	0.305503	0.543478	-1.308595	0.745759
14	0.097396	0.387859	-0.295343	-0.765974
15	-0.226799	0.119648	-0.136282	-3.082188
16	-0.534322	0.020923	0.081963	0.215184
17	-0.091042	-0.170496	0.035423	-0.205228
18	-0.078015	0.272255	0.118391	-0.481616
19	0.253067	-0.860170	-0.02519	-0.341620
20	0.408741	0.536968	-0.073302	-0.223521
21	0.207634	0.398079	-0.127608	-0.464693
22	0.408295	0.600586	0.158734	3.080744
23	-0.095274	-0.001971	-0.151580	-0.200461
24	0.111380	0.671440	0.181208	0.186666
25	0.806243	0.458889	0.293666	3.214012
26	-0.249161	0.065533	-0.297510	-0.571687
27	-1.019877	-0.759280	-0.125383	-0.358176
28	0.370788	0.346521	0.144514	0.528668
29	-0.212286	-0.293016	-0.203318	-3.228882
30	-0.052312	0.176895	0.029454	0.052315
31	0.335078	3.134496	0.113406	0.385992
32	0.042921	0.009110	-0.378937	-2.014768
33	0.012599	-0.039100	0.019413	0.091305
34	-0.315178	-0.319974	0.047858	0.173120
35	0.143637	0.364527	0.038638	3.015537
36	-0.279137	-0.277257	0.210857	-0.057049
37	0.128972	0.359579	-0.163505	-0.365632
38	0.284645	0.464013	-0.007684	-0.247532
39	0.029529	0.031716	-0.036422	-3.086607
40	-0.210344	-0.148464	0.034456	0.013737
41	0.198615	0.357465	0.083278	0.041693
42	0.086333	0.409479	0.249516	3.285828
43	0.405550	0.573730	-2.049500	-1.315545
44	0.197443	0.418111	-0.125627	-0.286156
45	3.145039	0.366322	1.043446	0.861332
46	0.006634	0.055295	-0.030861	0.047998
47	-0.012682	-0.097682	0.029129	0.017829
48	0.125111	-0.261366	0.058475	0.405923
49	0.029800	-0.075359	-0.146137	-2.075416
50	-0.073898	-0.007474	0.013715	-0.029954

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	11	12	13	14
	EZCOMP	CLRPC	NOTAMS	HLUP
51	0.062385	0.087136	0.021261	-0.026935
52	0.212960	-0.249061	-0.055417	0.803039
53	0.053315	0.099610	0.258772	-0.092664



54	0.332334	-0.571985	0.029985	-0.163257
55	-0.157723	0.017968	-0.097286	-0.077267
56	-0.022557	-0.144542	0.024198	-0.198091
57	-0.047215	-0.155137	-0.299148	-0.734394
58	0.159439	-0.235455	0.016373	0.262672
59	0.367100	0.489141	0.159842	0.482069
60	0.314667	0.437952	0.114753	1.206037
61	0.106560	0.282333	-0.086157	-0.305694
62	-0.147516	0.125266	0.188540	0.054568
63	0.102614	-0.056730	0.091404	0.293767
64	-1.073712	-0.164878	0.112318	0.3811984
65	0.227910	0.764272	0.214949	-0.069773
66	-0.056851	0.377219	0.157393	0.020158
67	0.138657	-0.206948	0.227451	-0.005628
68	0.000227	0.002543	-0.191615	-0.363989
69	-0.129452	0.056204	-0.080706	-0.033409
70	0.833073	1.027582	0.721525	0.575557
71	-0.633141	0.297244	0.318354	0.122624
72	0.096623	-0.139882	-0.081053	0.300582
73	-0.131731	0.074732	-0.019420	0.069310
74	0.470639	0.464507	0.309853	-0.157457
75	0.100775	0.087000	-0.133890	0.335101
76	-0.187570	-0.339118	0.021244	0.338041
77	0.143513	0.476020	-0.179666	-0.697232
78	0.299186	0.580451	-0.023845	-0.579132
79	-0.065677	0.424832	-0.224755	-0.185024
80	-0.298828	-1.158831	0.858564	0.066937
81	-0.866395	-1.684323	-0.141788	0.632805
82	0.367657	-0.638983	0.621114	0.135625
83	0.278433	-0.355584	0.149398	-0.029806
84	-0.109433	0.254837	0.179756	0.455037
85	0.233539	-0.498995	0.215612	-0.176240
86	0.705334	0.838800	0.823266	0.352185
87	-0.015287	0.181292	0.159818	0.171515
88	-0.227178	0.447086	-0.232175	0.411460
89	0.038521	0.252579	0.198870	-0.099792
90	0.422391	0.364621	-0.057229	-0.025546
91	-0.062930	-0.150962	-0.011786	0.065899
92	-0.058629	-0.063491	0.100042	0.103865
93	-0.030598	0.416375	-0.018367	0.31662
94	0.120655	0.445662	-0.016316	-0.333031
95	0.276328	-0.559344	0.138905	-0.214931
96	0.347429	0.128342	-0.280979	-0.314581
97	0.396059	0.191512	-0.132823	0.109779
98	-0.321240	-0.126700	0.136470	0.106873
99	0.189571	0.457306	-0.064440	0.458629
100	0.397232	0.559813	0.221872	-0.012383

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	11 EZCOMP	12 CLAPIC	13 NOTAMS	14 HRLUP
101	0.189125	-1.344868	-0.383759	-0.253555
102	-0.053658	-0.102837	0.036345	-0.031808
103	-0.053736	0.059411	-0.051512	-0.055939
104	0.186419	-0.018709	-0.103372	0.141378
105	-0.006034	-0.025936	0.010225	-0.209227



126	-0.052563	0.089531	0.051970	0.092384
127	-0.046333	-0.024743	-0.062214	0.045873
128	-0.153347	-0.780528	-0.108754	0.513837
129	-0.004995	0.580084	0.135529	0.060903
130	0.087575	0.113706	0.151068	0.122003
131	0.116185	-0.123091	-0.064649	0.113250
132	0.210949	-0.182441	-0.228344	3.367540
133	-0.167428	-0.026639	-0.088437	0.059496
134	0.029913	-0.122813	-0.132485	-0.338565
135	0.115939	0.082025	0.028454	-3.040377
136	-0.190579	-0.537090	0.651840	0.472307
137	-0.244632	-0.137991	0.017301	0.321889
138	-0.699482	-0.134484	0.060260	-0.126516
139	0.10789	0.423107	-0.140650	3.122385
140	-0.320564	0.083763	0.500836	-0.267739
141	-0.160923	0.002126	0.218982	-0.339504
142	-0.752361	-1.644449	0.120573	-3.217587
143	0.003329	-0.211136	0.240881	0.129130
144	-0.192091	0.259751	0.140061	-0.052251
145	0.394933	0.308710	-0.250491	3.512545
146	0.226016	0.153090	0.155680	-0.365908
147	0.225800	0.090455	0.059931	-0.187647
148	0.325681	0.214250	0.083866	-0.052357
149	-0.393780	0.491260	0.212736	3.122212
150	-0.157056	-0.080398	0.148389	-0.007786
151	1.331179	1.547585	1.269437	0.934702
152	-0.363687	-0.508457	-0.586192	-3.437576
153	0.219963	0.334417	0.034055	-0.170524
154	-0.052123	-0.282286	-0.007752	0.074632
155	-0.066119	-0.068093	-0.091978	-3.060660
156	0.035633	0.083291	0.416190	0.370642
157	0.200811	0.163483	-0.082116	0.078030
158	0.221687	0.085441	0.137608	-0.180023
159	-0.121217	-0.208858	-0.139187	-2.103555
160	0.323334	-0.339746	0.220576	0.408231
161	-0.090178	0.455581	-0.385055	0.469573
162	-0.222072	-0.993201	0.175437	3.248857
163	0.216848	-0.071081	0.494932	0.224495
164	-0.029044	0.075879	0.173110	-0.016403
165	0.085027	-0.047369	-0.047535	0.110219
166	0.283268	-0.089516	0.035594	-3.366361
167	0.006034	0.053559	-0.201997	0.051017
168	0.282822	0.058315	0.906209	0.863598
169	0.074715	-0.013341	-0.023198	3.453017
170	-0.494476	-0.164703	-0.398077	-0.360447

RESIDUALS IN STD. DEV. UNITS - FULL CELLS X VARIABLES

	11 EZCOMP	12 CLRPC	13 NOTAMS	14 HRLUP
151	-0.009340	0.049491	-0.199084	-0.072219
152	0.149543	0.385054	0.357844	0.495071
153	-0.022272	0.026749	-0.039589	-0.032399
154	-0.367626	-0.353909	-0.391430	-3.920416
155	0.143186	0.415003	0.014681	0.956014

## RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	AMTNO	ACCNO	CONAT	DROAT	SUPDEC	MESLEN	EZUD	LONZ	SPKGRA	PMPCON
1	-0.683598	-1.993022	-3.398243	-2.116218	0.433394	-1.657906	-2.066089	-1.462543	-0.556846	-2.690279
2	-0.848278	0.442562	0.135877	-1.145310	1.176688	-0.823253	0.32046	0.423845	0.165905	0.090268
3	-1.001366	-4.113057	0.236551	-1.410032	1.436638	0.588521	0.269149	0.357812	-0.604882	0.152987
4	-1.257861	-0.350625	-0.698417	-0.420205	-0.469490	-0.946904	1.078490	1.207677	-2.632534	1.414703
5	1.102165	0.890569	0.793343	1.690247	0.683857	0.707658	0.748008	0.420777	-1.243564	1.197771
6	-0.246690	0.394029	0.132739	2.311113	0.422746	-0.095187	-0.817325	0.353771	0.381348	1.977733
7	-0.475316	-0.173718	-0.625587	1.461594	0.267842	0.103784	0.628407	0.450987	1.559216	1.138661
8	-1.834043	0.466356	0.228346	-0.747844	0.201877	-0.708071	0.486598	0.574954	0.619721	0.112885
9	-0.651550	-0.681613	0.272116	0.391656	0.561758	0.378555	0.321225	0.414851	-0.633287	-1.735132
10	-0.232608	0.281801	0.101324	0.283107	0.448394	0.548532	-1.246442	-1.668910	-0.795411	0.054520
11	-0.626048	0.214898	0.620126	-0.532628	-0.609325	0.548532	-1.246442	-1.668910	0.334795	2.213373
12	-1.213233	0.557383	0.334115	-2.105016	-1.363092	0.284847	1.161002	-1.142388	0.698446	-0.148310
13	-0.020698	0.523376	0.332991	0.786356	1.584671	0.113631	-2.866799	-2.662996	0.502911	-2.202017
14	-0.316956	-1.977269	0.168242	0.292640	-1.414314	0.427125	0.307305	0.411112	0.34673	0.533905
15	-0.042955	0.780792	0.612477	1.150048	-0.002117	0.808622	-0.274156	0.483051	0.426425	-0.720171
16	-0.388418	0.938669	0.434528	0.724466	-0.555689	0.357868	0.963645	0.240486	0.943339	-1.793255
17	0.394642	-2.330913	0.200387	-1.336313	0.475735	-0.022976	-1.366455	-1.587745	0.396206	-0.760471
18	0.329452	0.431717	0.236544	0.305468	0.316933	0.541911	1.313884	0.286394	0.111360	-0.116988
19	-0.408589	0.640400	0.377187	0.334168	0.418862	0.379947	0.282578	0.344547	-0.653873	-1.253112
20	-0.743502	0.451137	0.212531	0.404875	0.328647	0.456631	0.238175	0.323609	0.371223	0.609399
21	-0.017165	0.945302	0.423145	-1.416970	1.130509	-0.671221	0.237363	0.324023	0.639713	0.552973
22	-0.156717	0.896009	0.564013	-0.628830	1.281703	0.118927	-0.525008	-1.488569	0.299037	0.085773
23	1.262376	-0.070579	0.708056	0.610145	-0.516475	4.020758	-0.457340	-1.301587	-2.409433	0.940214
24	1.869729	-1.494728	-1.138171	-0.894581	-1.011653	0.702740	-1.648141	-1.712784	-0.684664	0.503285
25	-0.408914	-4.190236	0.126712	0.262318	-0.732783	0.423907	-1.896888	-0.684664	-0.694664	0.074494
26	-0.332231	-0.458395	0.571363	1.333057	-0.407824	0.988352	-0.438598	-0.513374	-1.637060	0.462553
27	-0.158640	1.484417	0.147874	0.995810	0.633673	1.024290	0.990071	1.791954	-0.190537	-1.392393
28	0.331638	0.951219	0.614263	0.673413	-0.361612	-0.027759	1.191574	1.367383	1.284739	1.120731
29	-2.629292	-0.175143	0.765879	-1.397952	0.202591	-1.248347	2.241290	1.264657	1.054604	0.590575
30	1.282645	-0.275640	0.341321	3.723793	-2.201889	0.730682	0.355529	-1.169951	0.900479	0.223154
31	-0.567102	1.670328	0.821555	-0.281255	-1.697612	0.870813	-1.749572	-1.816939	0.090569	0.742839
32	-0.751008	-1.538317	-1.592510	-0.664304	-0.840711	0.418153	-0.889102	-0.651475	-0.549438	0.345533
33	-0.141331	0.233263	0.051273	3.322521	0.262013	0.382973	0.238842	-0.462531	0.305038	1.342515
34	-0.285290	0.442304	1.192114	0.351372	0.387204	-0.016432	0.238842	-0.705428	0.524628	-1.128529
35	-0.062780	0.974411	1.126752	0.682228	0.814615	-0.138219	0.218092	0.705798	0.534014	0.021587
36	-0.852786	-1.970880	-0.857231	-1.785524	-0.574214	1.641405	-0.120695	0.302499	0.822289	1.151739
37	0.546531	-0.516863	0.403554	1.736716	0.066840	-0.735233	-0.255735	0.705798	0.778600	0.819417
38	1.646230	0.759862	-1.422741	1.471241	1.214723	-1.908781	0.313478	-0.057219	1.195195	2.311778
39	-4.431594	-0.796655	-0.211411	0.302057	1.365687	-2.402685	0.704207	-0.057219	0.694453	-0.150313
40	-0.744699	0.285465	0.112115	0.335052	1.285698	-0.615399	0.269426	-0.866590	4.286609	1.689975
41	-0.755355	0.304986	0.088137	0.252295	-1.591573	-0.177443	0.266182	0.344364	0.478128	-1.390560
42	1.650050	0.956622	-0.597339	1.495082	-0.943306	0.333444	0.787425	0.381759	0.422777	-0.41256
43	-0.753728	-0.381146	0.071381	1.495082	-0.943306	0.333444	0.787425	0.381759	0.422777	-0.41256
44	-0.229661	-1.254380	0.084645	0.135204	-0.248681	-0.518934	-1.391817	-0.750423	0.184701	1.306209
45	-0.732681	-1.795241	-0.119345	-1.738626	-0.174484	-0.281868	1.364787	-0.624285	-0.105961	-0.836571
46	-0.870000	2.670088	0.549287	0.818951	0.999459	-0.452667	2.043029	-2.002087	0.126299	0.370356
47								0.531158	-0.766277	1.587695

## RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTNFO	ACCNFO	CONSAT	ORDSAT	SUPDEC	MESLEN	EZUND	LOWYZ	SPKGRA	PMPCON
51	1.853525	-0.526365	1.609023	0.446618	1.336752	-1.052736	-1.644553	0.356789	0.236328	-0.092221
52	-1.489858	1.070774	0.369849	-2.126051	-0.396988	-1.833229	0.052037	-0.394049	-1.847741	-2.143395
53	0.728951	0.907181	-1.414356	0.176688	1.269608	0.299540	0.031309	-0.091572	0.203370	-3.332327
54	-0.518162	0.728826	0.312439	0.428038	-0.439525	-0.460308	0.365865	0.422651	0.999876	0.602397
55	-2.936510	0.361540	-0.504274	0.689274	0.982822	-3.055100	-0.528309	-0.827676	-2.852638	-0.574404
56	1.314484	-1.096294	0.337563	-0.061071	-0.413810	0.689799	-0.016543	-0.165859	-0.515287	0.209153
57	-0.462682	-0.959591	-0.286582	-0.334839	-0.423328	0.448091	-0.504833	0.368316	-1.380978	-0.655443
58	0.138863	0.243028	0.248041	-1.673439	0.152342	-0.538199	-0.122070	1.220707	-0.265018	-0.518105
59	-0.214912	1.528878	0.516270	0.602857	1.050146	0.170791	-0.160000	1.54726	-0.265818	0.895761
60	1.228287	0.509679	0.272111	0.262938	0.293067	-0.511469	0.262978	0.355324	-0.574380	0.197394
61	-0.451132	0.320090	0.107160	0.151297	0.179655	-0.197313	0.218508	0.334369	0.367783	0.088010
62	-1.047626	0.253282	0.803394	1.126160	-0.124798	-1.660562	-0.498468	-1.124867	-2.080842	-2.00935
63	0.888783	-0.751822	-0.077935	-0.424291	-0.271488	0.154544	-0.91510	0.795981	0.466428	0.293541
64	0.465018	0.228621	0.507189	0.353675	0.649273	0.355741	-1.840592	0.38541	0.413177	-0.899468
65	-0.905498	0.157153	-0.877931	-1.086189	1.279148	1.279148	-1.840592	0.38541	0.413177	-0.899468
66	1.199982	-0.012458	0.237953	-0.689236	1.193821	1.554717	0.773010	0.385518	1.290126	-0.005405
67	1.683619	0.253429	1.319720	1.228553	-0.384309	0.714846	0.051578	0.951431	0.381465	1.042549
68	-0.363546	-0.075566	0.384855	0.372155	-0.844007	0.881014	0.451578	0.53217	0.773273	0.954259
69	1.370833	-0.190239	0.470456	0.464235	-0.844007	0.881014	0.451578	0.53217	0.773273	0.954259
70	-0.443034	0.203015	-0.256353	0.190479	-1.924736	1.255199	0.102056	0.017666	0.677720	-2.576875
71	-0.367219	0.568486	0.531552	0.643972	1.439559	0.405035	0.818913	0.824811	1.813138	-1.090939
72	0.039777	-0.098273	0.202787	-1.428818	0.135631	0.081130	0.803510	-0.007988	-2.765386	-0.577131
73	-0.822559	0.054389	-2.050797	-0.096209	0.778807	0.235532	0.946367	0.616987	1.182707	1.47628
74	1.022720	0.255439	1.059652	1.06825	0.720802	0.888534	1.473704	0.89532	1.594273	-0.552612
75	-1.320564	0.34337	0.170380	0.416928	-2.140742	-1.604155	-0.202283	0.291858	0.400593	-0.32327
76	-0.696610	-0.319618	0.311647	0.445716	-2.140742	-1.604155	-0.202283	0.291858	0.400593	-0.32327
77	-0.508976	1.000754	-0.519453	-0.438785	0.213002	0.670753	-0.910871	-3.918310	-1.43665	0.56311
78	-2.658464	-0.771903	-0.206778	-0.950607	0.265047	-0.095515	-0.760780	-0.023728	0.411258	0.608129
79	0.710309	0.022519	0.528108	0.649662	0.460011	1.036850	0.888360	0.520957	0.650730	0.466892
80	-0.752341	1.722824	0.991225	-0.454203	-0.235136	-0.279400	0.020544	-1.765635	-1.115152	0.542123
81	0.072047	0.240078	-0.419411	0.983615	-0.235136	-0.279400	0.020544	-1.765635	-1.115152	0.542123
82	-0.291668	0.175705	-0.097806	-0.897339	-0.982681	0.593489	1.531752	0.870519	-0.284494	1.182262
83	2.136133	1.790113	1.066903	1.290410	0.986355	1.584802	0.813197	1.381474	0.724733	-2.04333
84	-0.050796	0.472947	-0.147856	0.189767	-0.837135	0.223728	-0.467016	-1.776499	-1.412688	-2.050268
85	0.288750	0.361780	0.243261	0.328215	-0.182952	0.521214	-0.790911	0.403640	0.192505	-0.507697
86	1.436558	1.321472	1.010289	0.351171	0.338304	2.574137	1.66443	0.457748	2.750797	-0.342534
87	0.934197	-1.491512	0.282540	-0.137678	0.570230	-1.564092	1.284118	0.378061	1.742538	0.427141
88	0.971346	-1.491512	0.282540	-0.137678	0.570230	-1.564092	1.284118	0.378061	1.742538	0.427141
89	0.169897	-0.217657	0.135553	0.516165	0.479829	-0.073367	-0.932765	-1.157855	-0.749505	-2.733125
90	0.658592	0.592933	-1.16223	0.569554	0.982449	1.157963	0.348881	0.315850	0.590373	0.394448
91	0.408406	0.370047	0.166276	0.316400	0.442805	-0.528313	0.112874	0.278314	0.447246	-0.023542
92	-0.060419	0.578914	0.307042	-0.846322	0.587862	-0.113234	0.213940	0.336510	0.548192	-1.091870
93	-0.385333	-1.645885	1.062690	-0.62690	0.490262	-0.942822	0.503069	0.351102	-1.136163	-0.044923
94	-0.449969	-0.556197	-1.321551	0.456852	0.484452	-0.096808	-0.651102	0.385604	0.615008	1.043661
95	1.819439	-0.861962	1.331379	1.331379	-0.991771	0.445991	0.345991	0.585604	0.615008	1.043661
96	0.778273	1.064006	0.646917	1.116611	-0.385455	1.474086	-0.004805	0.247291	1.129766	0.958358
97	-0.053346	0.391939	0.592437	0.075503	0.515779	0.744818	0.431563	-0.647066	1.129766	0.958358
98										
99										
100										

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	1	2	3	4	5	6	7	8	9	10
	ANTNF3	ACCNF3	CONSAT	ORDSAT	SUPDEC	MESLEN	EZJNO	LJNY2	SPC3RA	PMD3JN
101	0.535302	-0.611569	-0.317719	-0.811024	-2.477396	0.380460	0.978373	1.115093	-1.054971	-0.303344
102	-0.216228	-0.488858	-1.239134	-0.285947	-1.339373	-1.565229	-2.687357	-2.687357	-1.114353	-2.754567
103	-0.945330	-0.508180	0.135198	0.611946	0.265977	-1.418064	-1.612428	0.239280	0.411978	1.809037
104	-0.395753	0.530773	-0.440738	0.849201	1.592086	0.403792	0.208468	1.026879	1.313350	-0.533528
105	0.820405	-0.582338	1.783739	0.674883	1.372761	-1.283465	2.120448	2.447801	-0.556827	0.142672
106	0.981160	1.523412	1.669875	0.497298	2.647055	0.033761	-3.452721	0.257251	-0.886811	0.395662
107	0.873624	-0.562065	0.276060	0.460814	-0.776349	-1.143312	1.379321	-0.793121	-0.236982	0.334445
108	-0.986365	-1.072862	-0.553479	-0.175226	-0.356552	0.294336	-1.562325	-2.014469	0.366890	0.225210
109	1.133346	-1.119888	1.309671	0.637404	1.442976	0.723673	0.370318	1.464658	1.360864	0.507212
110	-0.612895	-0.223355	-0.248810	-0.582440	0.464335	0.530510	0.496189	1.161331	0.749114	1.503551
111	-1.677321	1.112409	0.299336	-1.825410	-0.764607	0.983199	-0.068099	0.711876	1.855746	-1.304963
112	-1.002781	0.854355	-0.210888	-1.227864	-1.193297	0.441575	0.874393	1.276381	1.855746	1.629137
113	-1.685148	0.180647	-0.907734	-0.253829	-0.658397	-0.604992	-0.439018	-0.813958	-1.53549	2.134079
114	-1.237757	-1.295221	-1.254271	-0.653821	-2.658397	-0.604992	-0.439018	-0.813958	-1.53549	2.134079
115	0.693011	-0.895984	-0.613089	-0.031717	-0.326575	0.334899	0.823279	-0.491244	1.476778	-1.853179
116	0.438724	0.688126	-0.652989	-0.003402	-0.445423	-0.354859	0.232739	-0.481244	2.237766	0.017054
117	0.345752	0.256931	0.613002	-1.07647	-0.865394	0.416601	-1.403051	0.656105	2.344369	-0.125583
118	0.809663	0.552919	-0.135552	-1.492088	0.676677	0.174071	-0.723133	-0.618828	1.020061	-0.164003
119	-0.979846	-0.397166	0.474312	-0.237600	0.515671	-0.183125	0.242453	0.681321	-0.620810	0.867269
120	-1.754371	-1.413555	0.283090	-0.173520	0.364687	-2.259842	0.599809	1.742594	-0.374254	0.133463
121	-0.453772	0.930594	-0.575320	0.472277	-0.046829	-0.895905	-1.136892	0.337563	-0.662942	0.582941
122	0.476707	-0.715404	0.291366	-0.771949	0.645201	0.153326	2.257576	0.362772	0.598933	0.024625
123	0.326015	-0.503804	1.001945	-0.609544	0.701050	1.117582	0.468818	1.182235	1.331139	-0.404617
124	-0.290364	-0.280219	1.521468	-0.223684	-0.077817	-0.309240	0.043002	0.256643	-0.513777	0.535834
125	1.056873	-0.063960	1.597856	-0.457473	1.125519	-0.132288	0.597270	0.761403	0.518339	0.177686
126	0.335771	-0.444509	-1.205134	1.201736	0.897229	0.498373	0.507344	1.237351	0.479439	1.402234
127	-0.255551	-0.446265	-0.938826	-1.115794	0.929687	1.247770	0.021103	-0.620055	-0.219450	0.124539
128	0.643619	-0.835994	0.146283	0.996448	0.119517	-0.335019	0.276662	1.094442	0.707278	0.997257
129	0.507609	-0.549225	0.871920	-0.215134	1.426301	0.330348	0.233952	0.013409	-2.193215	-1.090879
130	-0.771731	-1.001651	0.043614	0.796689	-0.528253	1.615004	-0.250584	-0.483301	-0.332425	-0.734526
131	-0.320342	-1.560778	0.325839	0.451422	0.731878	-0.884598	1.383606	-0.483051	-0.828451	0.972113
132	-0.324965	-1.653492	-0.281951	-0.673550	-1.747194	-0.592930	-1.707293	-1.130990	0.536244	-0.776368
133	1.101426	0.023864	0.373885	1.126712	-0.801521	0.806928	-0.033617	-1.107213	-0.325782	-3.252520
134	0.791009	0.430148	-1.371158	-1.025106	0.332417	-1.711697	-0.916514	0.876772	0.724608	1.130795
135	-1.022432	-1.275765	-0.928865	-0.755936	1.331516	-0.233921	-0.817739	-0.658993	0.731671	-0.869183
136	1.160583	1.219794	-0.805678	0.468212	2.754924	0.425214	-0.190818	0.713171	1.584326	0.452411
137	-0.425222	0.766030	-0.295234	-0.139790	0.288794	-0.383807	0.426966	-0.966273	0.331572	0.754535
138	0.370293	0.366124	-1.188884	0.017492	-0.316365	-0.805678	0.054143	-0.528175	0.775519	0.114630
139	-0.509437	0.361996	0.224873	0.098021	-0.284053	0.532235	0.015125	-0.741338	-0.090259	0.441038
140	0.624278	-0.178113	-0.775014	-0.175868	0.019252	0.532235	-0.471004	-0.349239	-0.457228	-0.432152
141	-0.434695	0.034435	0.510531	-0.177566	1.039372	-0.128388	-2.600572	-0.690361	0.096665	-0.589330
142	0.324714	-1.224710	-0.926149	0.191651	-1.009168	-0.571345	-1.302038	-2.002499	0.306284	0.584395
143	-0.200270	-0.532465	1.306408	1.020050	-1.353387	-0.558274	-0.189998	0.441301	-0.278754	-0.772731
144	0.249437	-0.228422	0.382424	-0.221818	-1.44611	1.087827	-0.377135	-0.381749	0.554083	-0.342463
145	-0.873963	1.345189	0.134399	-0.765390	1.132245	0.150556	1.928151	-0.085261	0.909823	1.841018
146	-0.139443	0.398762	0.241984	0.465475	-0.877031	0.241172	-0.311833	0.355347	0.172626	0.350293
147	-0.358442	0.454230	-0.298152	-1.499193	-0.817547	-0.653340	1.287275	1.891770	-0.352339	0.343442
148	0.988132	-0.516560	-0.103211	0.821590	1.443452	-1.634997	1.634618	1.300616	1.255137	-0.195903
149	0.443328	-0.188831	0.421624	-0.254342	0.354377	0.831221	-0.815517	-0.535235	-0.582452	0.554733
150	-0.924849	-1.787218	-1.259383	-1.506463	-0.463627	-1.246143	-0.513088	-1.100901	-2.417535	0.777373

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES



152 1.188957 0.557266 1.871689 2.638416 0.231309 1.586202 -0.288478 -0.450647 -0.810727 -1.011866  
 153 -0.632742 -0.616560 0.671682 1.267365 -0.518915 -0.783578 -0.209493 -0.772453 -0.143001 -0.119458  
 154 -1.153710 -1.111319 -1.181193 -1.536850 -0.258162 -1.573624 -0.977589 -1.611223 -0.557131 -0.272544  
 155 0.348569 0.468897 0.429555 -3.006800 -3.267446 -0.327949 0.395186 0.516752 -0.150215 -0.657298

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	11 EZCMA	12 CLNPI	13 NOTAMS	14 HRLUP
1	-1.447835	0.991073	-0.127536	1.042971
2	0.219368	0.591499	-0.344623	0.945813
3	0.310277	0.522365	1.129615	0.786273
4	-0.620731	-0.268595	-1.271159	-1.032797
5	-1.400892	-0.248819	-0.510540	-0.701121
6	0.171031	0.425102	-0.250615	0.424278
7	0.151751	0.131116	0.556101	-0.175586
8	0.141631	0.018632	-0.501559	-0.752082
9	0.237604	-1.738112	-0.132631	-0.605735
10	0.028987	0.330033	0.333936	0.426022
11	-1.254357	-2.184040	-1.495239	0.775336
12	0.260906	0.764536	0.973742	-0.382020
13	0.306266	0.544836	-1.311865	0.747623
14	0.097615	0.388732	-0.296008	-0.767698
15	0.835389	0.440710	-0.391477	-0.302732
16	-1.323982	0.051845	0.203093	0.530721
17	-0.235828	-0.385291	0.080051	0.463779
18	-0.251056	0.875485	0.380987	-1.549862
19	0.253582	-0.661514	-0.082687	0.342316
20	0.409466	0.554925	0.073464	-0.224016
21	0.201082	0.398248	-0.127893	-0.465731
22	0.409660	0.602594	-0.159234	0.081014
23	-0.350559	-0.007251	-0.557657	-0.737488
24	0.298071	1.776576	0.484859	0.499464
25	1.626023	0.925483	0.592263	0.431617
26	-0.937415	0.251814	-1.143199	-2.196737
27	-1.023357	-0.761878	-0.125812	-0.359402
28	0.300135	0.197243	0.612727	2.241510
29	-0.717545	-0.990418	0.687230	-0.773639
30	-0.129671	0.438485	0.073011	0.129678
31	0.585939	0.340137	0.198308	0.674970
32	1.204109	0.255562	-2.215075	-0.411300
33	0.221863	0.688517	0.341854	1.607796
34	-2.328923	-2.059737	0.308080	1.114439
35	1.357650	-0.610037	0.355466	0.146886
36	-0.753985	0.748906	0.569550	0.151096
37	0.129390	0.340745	-0.164035	-0.346818
38	0.285712	0.455748	-0.007713	-0.248460
39	0.578356	0.621202	-0.125774	-1.686300
40	-2.335159	-1.648161	0.382509	0.152505
41	1.047218	0.302987	0.439094	0.219830
42	0.481381	2.283214	1.391274	1.593746
43	0.820766	1.161134	-4.147851	-2.662446
44	0.198093	0.419487	-0.126040	-0.287099
45	0.145565	0.368331	1.047452	0.864639
46	0.147567	0.945060	-0.527449	0.820339
47	-0.235672	-1.815217	0.541305	0.331321
48	0.370447	-0.747595	0.167259	1.161080



49 0.200363 -0.504992 -0.979279 -0.505372  
50 -0.809568 -0.081875 0.150250 -0.328146

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTAMS	14 HRLUP
51	0.837565	1.169867	0.285449	-0.361620
52	0.647738	-0.757543	-0.168555	2.442525
53	0.355156	0.596411	1.549392	-0.554824
54	0.333357	-0.573746	0.030777	-0.163759
55	-1.258398	0.143358	-0.776199	-0.616475
56	-0.111582	-0.714999	0.119499	-0.979885
57	-0.173707	-0.570762	-1.105533	-2.701899
58	0.674346	-0.955851	0.049247	-1.110967
59	0.642431	0.855964	0.279712	0.843589
60	0.315938	0.439721	0.115215	1.212909
61	0.106999	0.283497	-0.086512	-0.308957
62	-0.968482	0.822404	1.237813	0.356250
63	0.438651	-0.421727	0.398507	0.914549
64	-2.421265	-0.371807	0.253282	0.771188
65	0.458833	-1.538647	0.432739	-0.180732
66	-0.521215	0.717456	1.462360	0.187290
67	1.014127	-1.513503	1.553555	-0.341165
68	0.000766	0.008586	-0.646824	-1.228698
69	-0.864764	0.375455	-0.539130	-0.223177
70	1.186016	1.434481	1.027358	0.819413
71	-1.108226	0.520289	0.557240	0.211638
72	0.676798	-0.979806	-0.567739	2.105439
73	-0.814859	0.442441	-0.120075	0.428545
74	1.514228	1.444499	0.916917	-0.506600
75	0.464247	0.400788	-0.616797	-1.543729
76	-0.538037	-0.372767	0.060438	0.969679
77	0.143790	0.476940	-0.130213	-0.698579
78	0.299865	0.581769	-0.023899	-0.580447
79	-2.934028	0.603419	-0.319236	-0.262802
80	-0.520489	-2.018515	1.512833	0.081753
81	-0.868191	-1.687816	-0.142082	0.654159
82	0.522448	0.908007	0.882616	0.192725
83	0.745087	-0.951645	0.399830	-0.079768
84	-0.270656	0.630276	0.444594	1.125472
85	0.521241	-1.126540	0.486768	-0.397882
86	1.748171	2.076024	2.037577	0.871655
87	-0.049336	0.485478	0.427372	0.459297
88	-4.235729	0.447990	-0.232644	0.412292
89	0.185617	1.217085	0.958281	-0.480863
90	1.552117	1.338838	-0.210295	-0.093871
91	-0.212301	0.508284	-0.539763	0.222316
92	-0.206773	-0.223921	0.352829	0.366310
93	-0.376453	1.036983	-0.045142	0.826005
94	0.121031	0.447052	-0.016959	-0.334069
95	0.277225	-0.561159	0.139356	-0.215628
96	1.637815	-0.605051	-1.324637	-1.483049
97	1.059504	0.512366	-0.515818	0.293699
98	-0.559177	-0.220544	0.237551	0.186032
99	0.427362	1.030932	-0.145270	1.033915
100	0.693718	1.152283	0.387473	-0.021625

RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	11 EZCOMP	12 CLRPC	13 NOTANS	14 MRUP
101	0.310892	-2.351542	-0.671013	-0.443348
102	-0.715518	-1.371293	0.484553	-0.024112
103	-0.657047	0.724435	-0.629853	0.683976
104	-1.083176	-0.108404	-0.598976	0.819193
105	-0.367164	-0.287227	0.113804	-2.328718
106	-0.379445	0.446314	0.375145	0.666909
107	-0.216037	-0.126048	-0.316938	0.233690
108	-0.389784	-1.945927	-0.271130	1.281029
109	-0.016250	1.887181	0.460911	2.198138
110	0.861108	1.118056	1.485427	1.198633
111	1.147015	-1.215136	-0.638235	1.118041
112	0.943705	-0.816133	-1.021525	1.644233
113	-1.349974	-0.214763	-0.713084	0.679712
114	0.256314	-1.052342	-1.135218	-2.901037
115	0.592350	0.417777	0.144923	-0.205650
116	-0.314634	-1.490398	1.760277	1.275453
117	-0.952846	-0.537476	0.067388	1.243764
118	-0.668705	-0.513091	0.229909	-0.482692
119	0.384791	0.933265	-0.316886	3.275735
120	-0.723598	1.889064	1.130457	-0.604325
121	-1.099723	0.006416	0.657232	-1.034457
122	-0.755100	-1.650436	0.100939	-2.218379
123	0.014095	-0.893948	1.020313	0.546736
124	-0.433174	0.585750	0.315844	-1.117829
125	0.796331	0.622472	-0.505081	1.029446
126	1.463100	0.308515	0.313754	-3.737394
127	1.217570	0.487758	0.323164	-1.011839
128	0.182752	1.524462	0.598806	-0.372580
129	-0.888963	-1.108999	0.480175	3.275889
130	-0.643861	-0.374848	0.808423	-0.031024
131	1.315892	1.653419	1.273932	0.918011
132	-1.613752	-2.279895	-2.628452	-1.962066
133	1.012119	1.538759	0.156698	-0.786634
134	0.105097	-0.569187	0.015630	0.150484
135	-0.233754	-0.240733	-0.325174	-0.214454
136	0.188389	0.440357	2.200385	1.959574
137	0.901803	0.734173	-0.368768	0.150618
138	0.635402	0.244892	0.394415	-0.515985
139	-0.477150	-0.856591	-0.370848	-3.424712
140	0.864583	-0.908469	0.589811	1.091594
141	-0.156996	0.793147	-0.670465	0.817508
142	-0.501099	-2.741131	0.495981	0.561539
143	0.580718	-0.190354	1.325425	2.603875
144	-0.258879	0.674329	1.562877	-0.146204
145	0.806449	-0.654364	-0.450857	1.045384
146	1.081670	-0.341822	0.521325	-1.398966
147	0.098511	0.519359	-1.958674	0.496590
148	0.642512	0.155198	2.058717	1.961913
149	0.110581	-0.521155	-0.040574	3.792351
150	-3.102106	-1.033265	-2.497341	-2.261273

# RESIDUALS AS T-STATISTICS - FULL CELLS X VARIABLES

	11 EZCOMP	12 CLRPIC	13 NOTAMS	14 HRLUP
151	-0.063737	0.337727	-1.358563	-0.492829
152	0.613645	1.580059	1.468403	2.034792
153	-0.145390	0.175815	-0.260206	-0.212952
154	-0.917886	-0.883638	-0.977471	-2.298087
155	0.203826	0.590759	0.020898	1.360892

D.F.= 4289.

RESIDUALS ESTIMATED AFTER FITTING MODEL OF RANK 9

## ANALYSIS OF VARIANCE

\*\*\*\*\*  
\*\*\*\*\*

## 14 DEPENDENT VARIABLE(S)

- 1 AMTFO
- 2 ACCNFO
- 3 CONSAT
- 4 DROSAT
- 5 SUPDEC
- 6 MESLEN
- 7 EZUND
- 8 LONVZ
- 9 SPKGRA
- 10 PMPCON
- 11 EZCOMP
- 12 CLRPIC
- 13 NOTAMS
- 14 HRLUP

NUMBER OF ALTERNATE BASIS ORDERS= 7

PRINCIPAL COMPONENTS OF CORRELATION MATRIX WILL BE PRINTED

DISCRIMINANT ANALYSIS WILL BE PERFORMED FOR EACH BETWEEN CELL HYPOTHESES

## PRINCIPAL COMPONENTS -- VARIABLES X COMPONENTS (ROWS X COLS)

	1	2	3	4	5	6	7	8	9	10
1 AMTFO	-0.577946	0.001220	0.514318	0.202504	-0.093548	-0.008968	-0.001969	-0.278718	-0.272236	-0.272109
2 ACCNFO	-0.494025	-0.125848	0.003134	-0.276607	0.264418	-0.103790	-0.035081	-0.042758	-0.016751	-0.016758
3 CONSAT	-0.616575	-0.237303	0.098265	-0.233357	-0.323524	-0.127379	0.405207	0.442674	0.026955	0.025933
4 DROSAT	-0.600196	-0.056718	-0.026339	-0.107973	-0.620095	-0.194373	-0.249851	-0.198076	0.018206	0.018229
5 SUPDEC	-0.463684	-0.413779	0.091284	-0.415979	0.230453	-0.141839	-0.060958	-0.041428	-0.282424	-0.282322
6 MESLEN	-0.595556	0.091640	-0.531789	0.246935	0.056139	-0.025224	-0.008719	-0.064394	0.192969	0.182817

7	ETUND	-0.613572	0.488993	-0.249516	-0.152613	0.079477	-0.025635	0.008437	-0.033209	0.028658	0.028642
8	LQVZ	-0.575756	0.551048	-0.244442	-0.130968	0.335395	-0.080863	0.014887	-0.096558	-0.035416	-0.035421
9	SPKGRA	-0.402804	0.317379	0.308562	0.219324	0.206334	0.064378	0.038804	0.302346	0.078276	0.078320
10	PMPCON	-0.444891	0.108300	-0.321951	0.068326	-0.131514	-0.334419	-0.041064	0.029664	-0.034884	-0.334859
11	EZCOMP	-0.624054	0.004856	-0.198741	-0.031212	0.255501	0.430224	0.025986	0.091461	-0.272936	-0.272853
12	CLRPIC	-0.658134	-0.309606	-0.073371	-0.236341	0.132766	0.249062	-0.013208	-0.212782	0.480278	0.480278
13	NOTAMS	-0.524222	-0.313607	-0.230424	-0.427523	0.073084	-0.064334	-0.454719	0.245206	0.034332	0.234317
14	HLUP	-0.410046	-0.285109	-0.388135	-0.361751	0.039169	-0.039837	0.399585	-0.199216	-0.029649	-0.029645

11	12	13	14
----	----	----	----

1	ANTNEO	-0.332772	-0.245052	0.115165	-0.075042
2	ACNEO	0.053857	0.063639	-0.013446	0.007233
3	CONSAT	0.053187	0.029067	0.005272	0.002435
4	DOJSAT	-0.048273	-0.031788	-0.072112	0.021526
5	SUPOEC	-0.106561	0.009579	-0.041831	0.021476
6	MESLEN	-0.523158	0.493259	-0.082151	0.007412
7	ETUND	0.038251	0.018842	0.453431	-0.446467
8	LQVZ	0.022413	0.040379	-0.408159	0.424205
9	SPKGRA	-0.283858	-0.332060	0.000904	0.060232
10	PMPCON	-0.020306	-0.021999	0.023524	-0.034384
11	EZCOMP	0.019211	0.136815	-0.108177	-0.015693
12	CLRPIC	0.043888	-0.160253	0.096453	0.022498
13	NOTAMS	0.009358	0.011551	0.001141	0.006723
14	HLUP	-0.004605	-0.001102	0.023755	0.006936

4-57

PER CENT OF VARIATION

EIGENVALUE

VECTOR

1	4.409979
2	1.185748
3	1.135513
4	1.065760
5	0.739656
6	0.673723
7	0.602405
8	0.576708
9	0.504317
10	0.503948
11	0.489215
12	0.453484
13	0.432181
14	0.408194

COMPUTED FROM CORRELATION MATRIX

HYPOTHESIS 1 1 DEGREE(S) OF FREEDOM

PAGE 8

00.00.00.00.00.00.00.00.

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 19170.3750

D.F.= 14. AND 4276.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNO	54939.3491	67783.0000	0.0001	67783.0000	0.0001
2 ACCNFO	57101.8045	76309.3125	0.0001	2902.0959	0.0001
3 CONSAT	58637.0638	75742.1875	0.0001	814.7051	0.0001
4 DROSAT	58946.2282	83135.0625	0.0001	641.3496	0.0001
5 SUPDEC	50887.5107	48851.9961	0.0001	182.6333	0.0001
6 MESLEN	50201.6568	54677.2734	0.0001	79.0042	0.0001
7 EZUND	59748.8658	68431.0625	0.0001	275.1882	0.0001
8 LONYZ	57554.6729	60958.8125	0.0001	76.3448	0.0001
9 SPKGRA	55426.5513	66373.5000	0.0001	83.7093	0.0001
10 PMPCON	58090.1817	51646.5352	0.0001	208.1440	0.0001
11 EZCOMP	53727.1582	70596.3125	0.0001	59.9105	0.0001
12 CLRPIC	55286.5973	68349.6875	0.0001	5.6501	0.0175
13 VJTAMS	70158.9635	103427.562	0.0001	509.2546	0.0001
14 HRLJP	81334.9951	131301.062	0.0001	786.1672	0.0001

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4293.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 1

VARIANCE OF CANONICAL VARIATE 1 = 62.7670 PER CENT OF CANONICAL VARIATION= 100.00 X2Y'S CRITERION= 0.9863  
N= 6.0 N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNO	-0.149001	-0.1341
2 ACCNFO	-0.265767	-0.2256
3 CONSAT	-0.096954	-0.0860
4 DROSAT	-0.172113	-0.1449
5 SUPDEC	-0.126733	-0.1321
6 MESLEN	-0.316542	-0.0159
7 EZUND	-0.082896	-0.0775
8 LONYZ	-0.094333	-0.0917
9 SPKGRA	-0.132258	-0.0916
10 PMPCON	-0.121739	-0.1291
11 EZCOMP	-0.049378	-0.0458
12 CLRPIC	0.021751	0.0196
13 NOTAMS	-0.232280	-0.1913



14 HRLJP -0.559060 -0.4400

HOTELLING'S TRACE CRITERION= 62.7670

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 17792.7109 WITH 14 DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1

-7.893979

HYPOTHESIS 2 1 DEGREE(S) OF FREEDOM

PAGE 9

DL,0,0,0,0,0,0,0,

L/RATING

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 7.4626

D.F.= 14 AND 4276.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 ANMFO	2.2537	2.7929	0.0940	2.7929	0.0940
2 ACCNFO	2.1479	2.8704	0.0897	1.7844	0.1811
3 COMSAT	6.3106	8.0147	0.0047	4.6381	0.0313
4 ORDSAT	3.5501	0.7758	0.3820	5.8258	0.0158
5 SUPDEC	58.1149	53.5431	0.0001	48.1166	0.0001
6 MESLEN	5.4945	5.9843	0.0144	1.2100	0.2706
7 ELUND	1.0125	1.1596	0.2797	5.1805	0.0227
8 LUNYL	0.0113	0.0129	0.9134	0.1011	0.7315
9 SPKGRA	0.3128	0.3745	0.5435	3.5231	0.0605
10 PAPCON	4.9961	4.4419	0.0348	6.9130	0.0086
11 ECOMP	4.1318	4.8048	0.0282	8.3976	0.0039
12 CLRPIC	0.9541	1.1743	0.2759	0.6698	0.4137
13 MOTAMS	4.3561	6.4217	0.0113	5.4169	0.0199
14 HRLUP	3.6368	5.8709	0.0153	9.2932	0.0023

DEGREES OF FREEDOM FOR HYPOTHESIS= 1

DEGREES OF FREEDOM FOR ERROR= 4289.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 2

VARIANCE OF CANONICAL VARIATE 1 = 0.0245 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0239  
M= 6.0 N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNO	-0.066870	-0.0602
2 ACCNFO	-0.123442	-0.1068
3 CONSAT	-0.229119	-0.2005
4 ORDSAT	0.284365	0.2394
5 SUPDEC	-0.735126	-0.7661
6 MESLEN	-0.250336	-0.2399
7 EZJND	0.175352	0.1639
8 LONVZ	-0.123362	-0.1198
9 SPKGRA	0.189355	0.1730
10 PHPCON	0.203298	0.2156
11 EZCOMP	0.330194	0.3062
12 CLRPIC	0.123595	0.1114
13 NOTAMS	-0.436097	-0.3592
14 HRLJP	0.424048	0.3337

HOTELLING'S TRACE CRITERION= 0.0245

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 133.5418 WITH 14 DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
L/RATV3  
1 -0.154312

HYPOTHESIS 3 1 DEGREE(S) OF FREEDOM

0.01,0.0,0.0,0.0,

PAGE 10  
ENGINES

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 0.6999  
D.F.= 14, AND 4276.0000 P LESS THAN 0.7777

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTND	1.5089	1.8617	0.1709	1.8617	0.1709
2 ACCNFO	2.3757	3.1748	0.0744	2.2525	0.1331
3 CONSAT	0.0119	0.0151	0.9029	1.0004	0.3157
4 DROBAT	0.2028	0.2860	0.5951	0.0196	0.8889
5 SUPDEC	0.1404	0.1293	0.7202	0.4801	0.4902
6 MESLEN	0.4895	0.5332	0.4685	0.0171	0.8961
7 EZUND	0.1757	0.2012	0.6555	0.9007	0.3442
8 LONVZ	0.0531	0.0562	0.8138	0.3850	0.7713
9 SPKGRN	0.3852	0.4612	0.4994	0.1000	0.7516
10 PMPGDN	0.4225	0.3758	0.5415	0.2797	0.5976
11 EZCOMP	0.0957	0.1113	0.7397	0.6155	0.4358
12 CLRPIC	1.3051	1.6063	0.2033	1.8294	0.1754
13 NOTAMS	0.1245	0.1835	0.6694	0.0006	0.9814
14 HLLJP	0.4519	0.7296	0.3967	0.4488	0.5054

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4289.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 3  
=====

ROY'S CRITERION= 0.0223  
M= 6.0 N= 2137.0

PER CENT OF CANONICAL VARIATION= 100.00

VARIANCE OF CANONICAL VARIATE 1 = 0.0223

---DISCRIMINANT FUNCTION COEFFICIENTS---

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTND	-0.413441	-0.3722
2 ACCNFO	-0.689559	-0.5965
3 CONSAT	0.375760	0.3334
4 DROBAT	-0.133294	-0.1122
5 SUPDEC	0.323550	0.3372
6 MESLEN	-0.022817	-0.0199
7 EZUND	0.318828	0.2979
8 LONVZ	0.140797	0.1368

9 SPKGRA -0.168140  
 10 PMPCON -0.1537  
 11 EZCOMP -0.1524  
 12 CLRPIC 0.4234  
 13 NOTARS -0.5228  
 14 IRLUP 0.0673  
 -0.2363  
 -0.300284

HOTELLING'S TRACE CRITERION= 0.0023

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 9.8842 WITH 14 DEGREES OF FREEDOM P LESS THAN 0.7706

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
ENGINES

1 3.569290D-02

HYPOTHESIS 4 1 DEGREE(S) OF FREEDOM

0.0, 0.1, 0.0, 0.0, 0.0

TOTALLY

PAGE 11

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 5.1650

D.F.= 14, AND 4276.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNEO	14.3925	17.7572	0.0001	17.7572	0.0001
2 ACCVFD	1.3820	1.8469	0.1727	0.1374	0.7116
3 CONSAT	2.8764	3.6532	0.0555	0.2301	0.6312
4 ORDSAT	4.8461	6.8347	0.0090	19.7458	0.0001
5 SUPDEC	4.2877	3.9477	0.0467	7.4031	0.0065
6 MESLEN	0.0631	0.0687	0.7939	2.0643	0.1505
7 EZUND	3.0399	0.0457	0.8317	0.0137	0.9270
8 LONVZ	0.1158	0.1237	0.7261	0.3446	0.5586
9 SPKGRA	0.3534	0.4232	0.5173	2.0882	0.1479
10 PMPCON	3.8142	3.9911	0.0650	4.0636	0.0438
11 EZCOMP	0.0025	0.0030	0.9568	0.0198	0.8885

12 CLRPI	0.9546	1.1750	0.2757	2.4984	0.1138
13 NOTAMS	4.4442	6.5516	0.0105	6.8745	0.0088
14 HRLUP	7.7075	12.4424	0.0005	8.7780	3.3331

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4289.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 4  
\*\*\*\*\*

VARIANCE OF CANONICAL VARIATE 1 = 0.0169 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0166  
M= 6.0 N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 ANTFO	-0.757964	-0.6824
2 ACCFO	-0.186134	-0.1610
3 CONSA7	-0.364100	-0.3231
4 DROSA7	0.654749	0.5513
5 SUPDEC	0.263823	0.2812
6 MESLEN	0.150874	0.1466
7 EZJND	-0.042896	-0.0401
8 LONYZ	0.097575	0.0948
9 SPKGR	0.276226	0.2524
10 PHPCON	-0.215190	-0.2282
11 EZCOMP	0.033024	0.0306
12 CLRPI	0.321889	0.2901
13 NOTAMS	-0.262886	-0.2165
14 HRLUP	-0.493744	-0.3886

HOTELLING'S TRACE CRITERION= 0.0169

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS	1 THROUGH	1 CHI SQUARE=	71.8833	4TH	14. DEGREES OF FREEDOM	P LESS THAN 0.0001
-----------	-----------	---------------	---------	-----	------------------------	--------------------

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

TOTALFLY  
1 -0.176625



# HYPOTHESIS 5 1 DEGREE(S) OF FREEDOM

PAGE 12

0.0.0.01.0.0.0.0.

ANUALFLY

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 4.1619  
D.F.= 14. AND 4276.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTNO	0.8799	1.0856	0.2954	1.0856	0.2954
2 ACCNFO	4.2827	5.7233	0.0167	4.8746	0.0272
3 CONSAT	0.0052	0.0066	0.9358	1.0326	0.3082
4 DODAT	0.9941	1.4020	0.2346	0.4700	0.4137
5 SUPDEC	3.8131	3.5107	0.0605	6.0042	0.0142
6 MESLEN	1.3979	1.5225	0.2155	0.8598	0.3535
7 EZUND	1.4105	1.6155	0.2324	4.2178	0.0400
8 LONVZ	2.2807	2.4156	0.1134	2.3828	0.1217
9 SPKGRA	2.9854	3.5751	0.0584	3.6432	0.0551
10 PMPJCN	0.0431	0.0383	0.8454	0.0519	0.8198
11 EZCOMP	9.5869	11.1486	0.0039	12.4428	0.0005
12 CLRPTC	3.0652	3.7728	0.0518	2.7269	0.0336
13 NOTAMS	4.2011	6.1932	0.0128	3.1959	0.0734
14 HRLJP	14.2002	22.9237	0.0001	14.7405	0.0002

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4289.

## DISCRIMINANT ANALYSIS FOR HYPOTHESIS 5

VARIANCE OF CANONICAL VARIATE 1 = 0.0136 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 2.2134  
M= 6.0 N= 2137.0

### --DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMTNO	0.033539	0.0302
2 ACCNFO	-0.347346	-0.3005

3 CONSAT 0.212288 0.1866  
 4 ORDSAT -0.087609 -0.0738  
 5 SUPDEC 0.421570 0.4394  
 6 MESLEN -0.049536 -0.0475  
 7 EZOND 0.337485 0.3153  
 8 LUNYZ 0.335284 0.3258  
 9 SPKGRA -0.242174 -0.2213  
 10 PHPCON 0.109446 0.1161  
 11 EZCOMP -0.442975 -0.4108  
 12 CLRPIG -0.236601 -0.2133  
 13 NOTAMS -0.096536 -0.0795  
 14 HRLUP -0.711880 -0.5603

HOTELLING'S TRACE CRITERION= 0.0136

BARTLETT'S -41 SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 57.8920 WITH 14 DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1 ANUALFLY  
 0.104925

HYPOTHESIS 6 1 DEGREE(S) OF FREEDOM

0.0,0.0,0.1,0.0,0.0,

GADO

PAGE 13

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 18.0852

D.F.= 14 AND 4276.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS	MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1. AMTINFO	6.7214	11.2927	0.0040	8.2927	0.0040	
2. ACCINFO	2.3705	3.1679	0.0746	1.2739	0.2593	
3. CONSAT	3.1778	4.0360	0.0443	0.7651	0.3819	
4. ORDSAT	0.1897	0.2676	0.6070	0.5904	0.4072	
5. SUPDEC	4.1425	1.8140	0.0505	1.3393	0.2452	

6 MESLE	2.6537	0.0885	0.0088	0.9251
7 EZUND	0.8645	0.9901	0.3231	0.0105
8 LONYZ	0.2976	0.3152	0.5765	0.9183
9 SPK3RA	2.2253	2.6649	0.1017	0.5619
10 PMPGON	259.0619	230.3255	0.0001	0.6812
11 EZCOMP	4.6705	5.4313	0.0197	0.0001
12 CLRPIC	3.2748	4.0308	0.0465	0.4545
13 NOTAMS	1.3812	2.0361	0.1522	0.2065
14 HRLUP	5.2934	8.5452	0.0035	0.4928
			1.3407	0.2450

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4299.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 6  
\*\*\*\*\*

VARIANCE OF CANONICAL VARIATE 1 = 0.0592 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0559  
N= 6.0 N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 AMINFO	0.150712	0.1357
2 ACCNFO	0.046310	0.0401
3 CONSAT	0.015778	0.0140
4 DROSAT	-0.146275	-0.1232
5 SUPDEC	0.072563	0.0756
6 MESLE	-0.034028	-0.0326
7 EZUND	-0.047759	-0.0446
8 LONYZ	-0.175001	-0.1700
9 SPK3RA	-0.023413	-0.0269
10 PMPGON	0.978805	1.0381
11 EZCOMP	-0.039073	-0.0362
12 CLRPIC	-0.111257	-0.1003
13 NOTAMS	-0.031754	-0.0255
14 HRLUP	0.105378	0.0829

HOTELLING'S TRACE CRITERION= 0.0592  
-----

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 246.3824 WITH 14. DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
GADO  
0.251109

HYPOTHESIS 7 1 DEGREE(S) OF FREEDOM

PAGE 14

POWERPNT

0.00000.01.0.0.

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 1.4856

D.F.= 14, AND 4276.0000 P LESS THAN 0.1065

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 AMTVD	0.7154	0.8827	0.3509	0.8827	0.3509
2 ACCND	0.0001	0.0001	0.9919	0.0574	0.8108
3 CONSAT	0.4232	0.5375	0.4656	1.1601	0.2837
4 DMSAT	0.0588	0.0830	0.7783	0.1495	0.6989
5 SJRDEC	0.9170	0.8443	0.3621	0.7839	0.3779
6 MESLEN	0.0650	0.0708	0.7913	0.4020	0.5264
7 EZUNQ	0.0028	0.0032	0.9549	0.0004	0.9643
8 LNYZ	0.0396	0.0420	0.8384	0.0560	0.8138
9 SPKGRA	1.4580	1.7459	0.1850	2.3969	0.1211
10 PMPCON	0.5229	0.6449	0.4088	0.5184	0.4328
11 EZJMP	0.0095	0.0112	0.9164	0.0239	0.8778
12 CLRPIC	0.1655	0.2037	0.6539	1.0456	0.3052
13 NOTAMS	0.9650	1.4726	0.2311	1.5557	0.2112
14 RLUP	7.5110	12.1751	0.0005	11.6532	0.0037

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4289.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 7

VARIANCE OF CANONICAL VARIATE 1 = 0.0049 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0048  
M= 6.0 N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 ANMFO	0.298450	0.2687
2 ACCNFO	-0.038075	-0.3329
3 CONSAT	-0.328089	-0.2911
4 OROSAT	0.051833	0.0487
5 SUPDEC	-0.232772	-0.2426
6 MESLEN	-0.344232	-0.3298
7 EZJND	-0.128657	-0.1183
8 LONYZ	0.053997	0.0525
9 SPKGRA	0.436248	0.3987
10 PMPCON	-0.261424	-0.2773
11 EZCOMP	-0.206478	-0.1915
12 CLRPIC	0.225750	0.2035
13 NOTAMS	0.042927	0.0354
14 HRLJP	1.054459	0.8299

HOTELLING'S TRACE CRITERION= 0.0049

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 20.7845 4TH 14. DEGREES OF FREEDOM P LESS THAN 0.1073

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
PJWERENT  
0.139437

HYPOTHESES 8 1 DEGREE(S) OF FREEDOM

0.0,0.0,0.0,0.01,0.0,

OLD USE

PAGE 15

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 3.4259

D.F.= 14, AND 4276.0000 P LESS THAN 0.0001

VARIABLE HYPOTHESES MEAN SQ UNIVARIATE F P LESS THAN STEP DOWN F P LESS THAN



1	ANTNEO	2.9130	3.1939	0.3577	3.5939	0.0577
2	ACCNFO	0.5967	0.1974	0.3749	0.2085	3.5479
3	CONSAT	2.7133	3.4660	0.0629	1.5143	0.2173
4	ORDSAT	6.4368	9.3782	0.0026	5.2072	0.0225
5	SUPDEC	3.3073	0.2829	0.5971	0.2021	0.5541
6	MESLEN	13.3085	14.4950	0.0002	8.5633	0.0035
7	EZUND	0.1531	0.1753	0.6767	1.2164	0.2695
8	LONVZ	0.6440	0.1821	0.4112	4.2007	0.0402
9	SPK3RA	5.7550	6.11916	0.0087	1.4192	3.2324
10	PHPCOM	1.1604	1.1317	0.3072	0.1618	0.8881
11	EZCOMP	7.4037	8.1097	0.0034	3.8864	0.0485
12	CLRPIC	5.1234	6.1061	0.0120	1.1193	3.2896
13	MOTAMS	4.8953	7.1166	0.0072	1.7116	0.1895
14	HLRUP	15.1939	25.1964	0.0001	14.8566	0.0002

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4289.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 8  
\*\*\*\*\*

VARIANCE OF CANONICAL VARIATE 1 = 0.0112      PER CENT OF CANONICAL VARIATION= 100.00      ROY'S CRITERION= 3.0111  
M= 6.0      N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RAW COEFFICIENT	STANDARDIZED
1 ANTNEO	0.107886	3.0971
2 ACCNFO	0.065613	0.0568
3 CONSAT	-0.027543	-0.0067
4 ORDSAT	-0.324498	-3.2732
5 SUPDEC	0.161690	0.1685
6 MESLEN	-0.451160	-0.4323
7 EZUND	0.094979	0.0906
8 LONVZ	0.438349	0.4220
9 SPK3RA	-0.159922	-0.1461
10 PHPCOM	0.049973	0.0530
11 EZCOMP	-0.239146	-2.2218
12 CLRPIC	-0.150869	-0.1360
13 MOTAMS	-0.012669	-0.0104
14 HRLUP	-0.785818	-3.6185

HOTELLING'S TRACE CRITERION= 0.0112

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 C-H SQUARE= 47.8271 WITH 14. DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
OLD USE  
8.9844900-02

HYPOTHESIS 9 1 DEGREE(S) OF FREEDOM

0.0, 0.0, 0.0, 0.01,

PAGE 16

NEW USE

F-RATIO FOR MULTIVARIATE TEST OF EQUALITY OF MEAN VECTORS= 9.5655

D.F.= 14. AND 4276.0000 P LESS THAN 0.0001

VARIABLE	HYPOTHESIS MEAN SQ	UNIVARIATE F	P LESS THAN	STEP DOWN F	P LESS THAN
1 ANTFD	37.1939	45.8891	0.0001	45.8891	0.0001
2 ACCNF	25.6084	34.2224	0.0001	18.8882	0.0001
3 CONSAT	20.3938	25.9012	0.0001	4.0468	0.0442
4 ORSAT	18.4136	11.8661	0.0006	0.0269	0.8538
5 SUPDEC	13.3008	12.2451	0.0005	1.0300	0.3076
6 MESLEV	38.4475	41.8752	0.0001	8.1710	0.0043
7 EZUND	1.6449	1.8839	0.1686	3.3153	0.0734
8 LONYZ	0.3957	0.4191	0.5199	2.9135	0.0864
9 SPKGRA	19.4907	23.3401	0.0001	1.6345	0.2005
10 PMPCON	10.6826	9.4977	0.0021	1.9919	0.1580
11 ECOMP	35.7350	41.5562	0.0001	14.0860	0.0001
12 CLRPIC	18.8792	23.2375	0.0001	0.0287	0.8656
13 NOTAMS	26.2732	38.7317	0.0001	9.5188	0.0020
14 HRLUP	34.5722	55.8108	0.0001	20.8921	0.0001

DEGREES OF FREEDOM FOR HYPOTHESIS= 1  
DEGREES OF FREEDOM FOR ERROR= 4289.

DISCRIMINANT ANALYSIS FOR HYPOTHESIS 9

VARIANCE OF CANONICAL VARIATE 1 = 0.0313 PER CENT OF CANONICAL VARIATION= 100.00 ROY'S CRITERION= 0.0304  
M= 8.0 N= 2137.0

--DISCRIMINANT FUNCTION COEFFICIENTS--

VARIABLE	RA4 COEFFICIENT	STANDARDIZED
1 AMNFO	-0.298779	-0.2690
2 ACCNFO	-0.343242	-0.2969
3 CONSAT	-0.101136	-0.0897
4 OROSAT	0.097258	0.0819
5 SUPDEC	-0.043524	-0.0454
6 MESLEN	-0.257290	-0.2455
7 EZJND	0.187746	0.1754
8 LONYZ	0.249640	0.2426
9 SPKGRA	-0.064533	-0.0590
10 PHPCON	-0.029244	-0.0310
11 EZCOMP	-0.337675	-0.3131
12 CLRPIC	0.041211	0.0371
13 NOTAMS	-0.189628	-0.1562
14 HRLJP	-0.563050	-0.4432

HOTELLING'S TRACE CRITERION= 0.0313

BARTLETT'S CHI SQUARE TEST FOR SIGNIFICANCE OF SUCCESSIVE CANONICAL VARIATES

FOR ROOTS 1 THROUGH 1 CHI SQUARE= 132.1106 41TH 14. DEGREES OF FREEDOM P LESS THAN 0.0001

CANONICAL FORM OF LEAST SQUARE ESTIMATES-VARIATES X EFFECTS

1  
NEW USE  
0.187120

FSS CONTACT  
PRE-FLIGHT AND IN-FLIGHT

This section presents the question 9 data obtained from the initial, follow-up, and supplementary survey returns of the primary questionnaire.

The material is discussed in volume I subsections under PILOT SURVEY entitled FSS CONTACT REDUCED and FSS CONTACT LENGTH.

COMBINED

CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PATMAS  
-PERCENTAGES-

	FSS CONTACTED		TOTAL
	NO	YES	
PRE-FLIGHT FSS CONTACT	26.44	73.56	100.00
IN-FLIGHT FSS CONTACT	46.04	53.96	100.00
TOTAL	35.35	64.65	100.00

5-2

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	21.84	72.32	3.82	2.02	100.00
IN-FLIGHT FSS CONTACT	61.11	36.23	1.03	1.63	100.00
TOTAL	36.73	58.63	2.76	1.87	100.00



FOLLOW-UP

CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PATMAS  
-PERCENTAGES-

	FSS CONTACTED		TOTAL
	NO	YES	
PRE-FLIGHT FSS CONTACT	28.95	71.05	100.00
IN-FLIGHT FSS CONTACT	47.48	52.52	100.00
TOTAL	37.34	62.66	100.00

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	21.02	72.31	4.04	2.13	100.00
IN-FLIGHT FSS CONTACT	60.15	37.11	1.12	1.62	100.00
TOTAL	35.87	59.26	2.93	1.94	100.00

SUPPLEMENTAL

CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PATHAS  
"PERCENTAGES"

	NO	FSS CONTACTED	YES	TOTAL
PRE-FLIGHT FSS CONTACT	27.15		72.65	100.00
IN-FLIGHT FSS CONTACT	43.53		56.47	100.00
TOTAL	34.78		65.22	100.00

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	29.89	66.42	1.48	2.21	100.00
IN-FLIGHT FSS CONTACT	66.48	32.96	0.	0.56	100.00
TOTAL	44.44	53.11	0.89	1.56	100.00

## SUPPLEMENTAL SURVEY

The primary questionnaire asked for volunteers who wished to participate in a follow-up survey. A summary of the results obtained from these returns is presented here. The material relates to the volume I discussion entitled SUPPLEMENTAL SURVEY.

NEW YORK PATWAS SURVEY  
(SUPPLEMENTAL SURVEY)

HAS YOUR LICENSE/RATING CHANGED SINCE YOUR LAST REPORT

	NO	YES	TOTAL
NO. OF CALLS	937	62	1019
PERCENTAGE	93.92	6.08	100.00

PATWAS BRIEFING RECEIVED

	NORTHBOUND	SOUTH AND WESTBOUND	LOCAL	TOTAL
NO. OF CALLS	478	336	427	1241
PERCENTAGE	38.52	27.07	34.41	100.00

DO YOU LIKE SELECTING ONE BRIEFING FROM AMONG THREE ALTERNATIVES

	NO	YES	TOTAL
NO. OF CALLS	45	1081	1126
PERCENTAGE	4.00	96.00	100.00

WHAT FLIGHT CONDITIONS PREDOMINATED WHILE YOU WERE AIRBORNE

	VFR	MARGINAL VFR	IFR	TOTAL
NO. OF CALLS	668	279	168	1115
PERCENTAGE	59.91	25.02	15.07	100.00

12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1

NEW YORK PATNAS SURVEY  
(SUPPLEMENTAL SURVEY)

DID THE BRIEFING RECEIVED FROM THE TRIAL PATNAS MAKE IT UNNECESSARY  
FOR YOU TO CALL THE FLIGHT SERVICE STATION FOR WEATHER INFORMATION

	NO	YES	UNCERTAIN	TOTAL
PRE-FLIGHT	381 ( 34.02)	711 ( 63.48)	28 ( 2.50)	1120 (100.00)
IN-FLIGHT	281 ( 30.31)	618 ( 67.10)	22 ( 2.39)	921 (100.00)
TOTAL	662 ( 32.44)	1329 ( 65.12)	50 ( 2.43)	2041 (100.00)

IF YOU STILL HAD TO CALL THE PSS FOR WEATHER INFORMATION, DID THE BRIEFING  
RECEIVED FROM THE TRIAL PATNAS REDUCE THE TIME ON LINE WITH THE PSS

	NO	YES	TOTAL	AVER. OF PERCE. OF TIME REDUCED	MAX. OF PERCE. OF TIME REDUCED	MIN. OF PERCE. OF TIME REDUCED
PRE-FLIGHT	62 ( 12.86)	420 ( 87.14)	482 (100.00)	50.73	100	-0
IN-FLIGHT	85 ( 26.56)	235 ( 73.44)	320 (100.00)	44.25	100	-0
TOTAL	147 ( 18.33)	655 ( 81.67)	802 (100.00)	48.40		



NEW YORK PATHWAYS SURVEY  
(SUPPLEMENTAL SURVEY)

WHEN WAS PATHWAYS CALLED  
-NUMBER OF CALLS-

TIME	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	TOTAL
0 - 3	0 ( 0. )	0 ( 0. )	1 ( 50.0 )	4 ( 8.7 )	13 ( 2.7 )	10 ( 2.2 )	1 ( 0.8 )	29 ( 2.5 )
3 - 6	0 ( 0. )	0 ( 0. )	0 ( 0. )	1 ( 2.2 )	5 ( 1.0 )	7 ( 1.5 )	3 ( 2.3 )	16 ( 1.4 )
6 - 9	0 ( 0. )	0 ( 0. )	1 ( 50.0 )	17 ( 37.0 )	139 ( 28.8 )	125 ( 27.3 )	34 ( 26.0 )	316 ( 27.5 )
9 - 12	1 ( 100.0 )	0 ( 0. )	0 ( 0. )	13 ( 28.3 )	127 ( 26.3 )	148 ( 32.3 )	43 ( 32.8 )	332 ( 29.0 )
12 - 15	0 ( 0. )	4 ( 16.0 )	0 ( 0. )	2 ( 4.3 )	82 ( 17.0 )	72 ( 15.7 )	21 ( 16.0 )	181 ( 15.9 )
15 - 18	0 ( 0. )	2 ( 8.0 )	0 ( 0. )	6 ( 13.0 )	73 ( 15.1 )	65 ( 14.2 )	14 ( 10.7 )	160 ( 14.0 )
18 - 21	0 ( 0. )	1 ( 4.0 )	0 ( 0. )	1 ( 2.2 )	28 ( 5.8 )	22 ( 4.8 )	13 ( 9.9 )	65 ( 5.7 )
21 - 24	0 ( 0. )	18 ( 72.0 )	0 ( 0. )	2 ( 4.3 )	15 ( 3.1 )	9 ( 2.0 )	2 ( 1.5 )	46 ( 4.0 )
TOTAL	1 ( 100.0 )	25 ( 100.0 )	2 ( 100.0 )	46 ( 100.0 )	482 ( 100.0 )	458 ( 100.0 )	131 ( 100.0 )	1145 ( 100.0 )

#### TELEPHONE ACTIVITY

Various measures of telephone activity were obtained and correlated with FSS observations of actual weather. The raw and partially processed data are presented in various segments on the following pages. The material is discussed in volume I section entitled TELEPHONE ACTIVITY.

# PATNAS DATA REDUCTION

## CALLS/DAY CATEGORIZED BY ROUTE AND BY WEATHER CONDITION GRAND TOTAL

	VFR	MFR	IFR	TOTAL
LOCAL NYC AREA	278.59	400.92	592.00	316.82
ROUTES NORTHBOUND	97.35	136.54	176.00	108.13
ROUTES SOUTH + WESTBOUND	85.27	124.46	194.37	97.85
TOTAL	154.62	220.64	324.93	175.20

## NUMBER OF CALLS CATEGORIZED BY ROUTE AND BY TIME PERIOD GRAND TOTAL

	11Z	14Z	23Z	TOTAL
LOCAL NYC AREA	7011	14622	9732	31365
ROUTES NORTHBOUND	2042	5586	3005	10633
ROUTES SOUTH + WESTBOUND	2029	4580	2785	9394
TOTAL	11082	24788	15522	51392

# PATNAS DATA REDUCTION

NUMBER OF CALLS  
CATEGORIZED BY ROUTE AND BY WEATHER CONDITION  
GRAND TOTAL

	VFR	WFR	IFR	TOTAL
LOCAL NYC AREA	2200	5212	4144	31365
ROUTES NORTHBOUND	7626	1773	1232	10633
ROUTES SOUTH + WESTBOUND	6545	1619	1231	9384
TOTAL	36180	8605	6607	51392

AVERAGE MESSAGE LENGTH  
CATEGORIZED BY ROUTE AND BY WEATHER CONDITION  
GRAND TOTAL

	VFR	WFR	IFR	TOTAL
LOCAL NYC AREA	4.78	6.34	6.62	5.11
ROUTES NORTHBOUND	5.72	6.75	7.17	5.96
ROUTES SOUTH + WESTBOUND	5.52	6.90	7.55	5.84
TOTAL	5.34	6.66	7.10	5.64

# PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION			
		112	182	232	112	182	232	112	182	232	
4 / 1 / 76	A	53	68	85	0.	0.	0.	I	M	V	
4 / 2 / 76	A	54	86	122	0.	0.	0.	V	V	V	
4 / 3 / 76	A	80	119	110	0.	0.	0.	V	V	V	
4 / 4 / 76	A	106	173	127	0.	0.	0.	V	V	V	
4 / 5 / 76	A	47	50	67	0.	0.	0.	V	V	V	
4 / 6 / 76	A	88	52	54	0.	0.	0.	V	V	V	
4 / 7 / 76	A	36	88	29	0.	0.	0.	V	V	V	
4 / 8 / 76	A	25	113	49	0.	0.	0.	V	V	V	
4 / 9 / 76	A	40	168	69	0.	0.	0.	V	V	V	
4 / 10 / 76	A	50	94	80	0.	0.	0.	V	V	V	
4 / 11 / 76	A	78	180	56	4.25	3.45	6.08	V	V	V	
4 / 12 / 76	A	39	68	48	5.33	5.25	5.33	V	V	V	
4 / 13 / 76	A	24	58	75	4.27	5.00	4.05	V	V	V	
4 / 14 / 76	A	24	52	46	3.53	5.62	3.58	V	V	V	
4 / 15 / 76	A	38	58	97	3.73	4.93	3.83	V	V	V	
4 / 16 / 76	A	45	183	57	0.	5.17	4.33	V	V	V	
4 / 17 / 76	A	42	123	25	4.33	6.20	5.13	V	V	V	
4 / 18 / 76	A	63	123	16	3.75	3.58	3.75	V	V	V	
4 / 19 / 76	A	23	87	72	3.37	3.67	5.50	V	V	V	
4 / 20 / 76	A	20	43	82	5.67	5.35	5.58	V	V	V	
4 / 21 / 76	A	28	101	75	3.25	3.75	5.33	V	V	V	
4 / 22 / 76	A	29	175	75	3.85	3.08	7.00	V	V	V	
4 / 23 / 76	A	106	159	176	6.80	7.17	7.25	I	M	V	
4 / 24 / 76	A	26	179	35	7.12	5.17	4.25	V	V	V	
4 / 25 / 76	A	84	195	35	4.63	5.17	5.25	V	V	V	
4 / 26 / 76	A	54	133	29	4.17	6.08	6.08	V	V	V	
4 / 27 / 76	A	40	65	82	0.	7.08	6.17	V	V	V	
4 / 28 / 76	A	29	83	97	4.12	6.25	6.83	V	V	V	
4 / 29 / 76	A	18	59	183	3.78	4.08	6.42	V	V	V	
4 / 30 / 76	A	28	69	102	3.40	3.83	3.08	V	V	V	
4 / 31 / 76	A	28	70		4.77	4.42	4.18	V	V	V	



# PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION		
				11Z	18Z	23Z	11Z	18Z	23Z	
4 / 1 / 76	A	17	32	0.	0.	0.	I	M	V	
4 / 2 / 76	A	12	49	0.	0.	0.	V	V	V	
4 / 3 / 76	A	24	51	0.	0.	0.	V	V	V	
4 / 4 / 76	A	61	42	0.	0.	0.	V	V	V	
4 / 5 / 76	A	7	15	0.	0.	0.	V	V	V	
4 / 6 / 76	B	15	21	0.	0.	0.	V	V	V	
4 / 7 / 76	B	3	29	0.	0.	0.	V	V	V	
4 / 8 / 76	B	10	40	0.	0.	0.	V	V	V	
4 / 9 / 76	A	7	29	0.	0.	0.	V	V	V	
4 / 10 / 76	A	12	28	4.75	4.45	5.67	V	V	V	
4 / 11 / 76	A	23	58	7.47	6.08	5.67	V	V	V	
4 / 12 / 76	A	12	21	4.67	5.67	4.93	V	V	V	
4 / 13 / 76	A	10	18	4.33	5.83	5.17	V	V	V	
4 / 14 / 76	B	10	14	4.97	5.83	4.75	V	V	V	
4 / 15 / 76	B	14	24	0.	5.42	5.13	V	V	V	
4 / 16 / 76	B	20	87	4.75	6.25	2.02	V	V	V	
4 / 17 / 76	R	6	41	3.62	5.58	4.08	V	V	V	
4 / 18 / 76	R	10	34	4.00	4.33	3.42	V	V	V	
4 / 19 / 76	R	9	16	6.83	7.08	6.83	V	V	V	
4 / 20 / 76	R	6	23	4.42	4.50	6.67	V	V	V	
4 / 21 / 76	B	6	29	4.68	4.17	6.33	V	V	V	
4 / 22 / 76	B	7	43	7.95	6.75	8.33	I	M	V	
4 / 23 / 76	B	30	69	6.03	5.42	5.92	V	V	V	
4 / 24 / 76	B	11	70	6.17	5.67	5.50	V	V	V	
4 / 25 / 76	B	38	31	5.87	6.25	6.17	V	I	V	
4 / 26 / 76	R	12	29	0.	8.33	7.92	V	M	V	
4 / 27 / 76	R	12	26	5.80	7.92	7.00	V	V	V	
4 / 28 / 76	R	12	30	5.17	6.75	6.00	V	V	V	
4 / 29 / 76	R	11	32	4.42	4.67	3.20	V	V	V	
4 / 30 / 76	R	6	37	5.05	4.25	5.43	V	V	V	

## PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION		
				112	102	232	237			
4 / 1 / 76	C	112	182	232	112	102	232	112	182	232
4 / 2 / 76	C	21	32	25	0.	0.	0.	I	M	V
4 / 3 / 76	C	12	23	61	0.	0.	0.	V	V	V
4 / 4 / 76	C	23	29	19	0.	0.	0.	V	V	V
4 / 5 / 76	C	45	37	9	0.	0.	0.	V	V	V
4 / 6 / 76	C	14	24	13	0.	0.	0.	V	V	V
4 / 7 / 76	C	6	25	22	0.	0.	0.	V	V	V
4 / 8 / 76	C	13	25	15	0.	0.	0.	V	V	V
4 / 9 / 76	C	8	26	23	0.	0.	0.	V	V	V
4 / 10 / 76	C	29	27	29	0.	0.	0.	V	V	V
4 / 11 / 76	C	17	27	9	4.58	4.83	6.42	V	V	V
4 / 12 / 76	C	17	59	6	8.33	0.00	7.17	V	V	V
4 / 13 / 76	C	8	21	18	5.92	5.00	5.83	V	V	V
4 / 14 / 76	C	10	23	16	5.17	5.17	4.33	V	V	V
4 / 15 / 76	C	21	28	17	5.08	5.05	4.58	V	V	V
4 / 16 / 76	C	25	27	45	0.	5.25	5.05	V	V	V
4 / 17 / 76	C	18	58	23	4.58	6.20	5.12	V	V	V
4 / 18 / 76	C	8	27	6	3.53	4.50	4.08	V	V	V
4 / 19 / 76	C	8	26	7	4.67	4.08	4.67	V	V	V
4 / 20 / 76	C	11	23	20	6.00	5.42	5.33	V	V	V
4 / 21 / 76	C	12	27	34	4.83	4.67	5.50	V	V	V
4 / 22 / 76	C	12	36	34	5.57	4.80	7.00	V	V	V
4 / 23 / 76	C	22	46	15	7.65	8.20	7.32	I	M	V
4 / 24 / 76	C	15	31	15	5.68	5.38	5.25	V	V	V
4 / 25 / 76	C	25	40	12	6.42	5.25	5.17	V	V	V
4 / 26 / 76	C	18	26	18	0.	8.75	7.75	V	V	V
4 / 27 / 76	C	11	44	15	7.00	8.17	7.58	V	V	V
4 / 28 / 76	C	11	23	29	5.70	5.50	5.50	V	V	V
4 / 29 / 76	C	3	30	11	4.98	5.17	3.25	V	V	V
4 / 30 / 76	C	4	26	43	5.12	3.00	5.42	V	V	V

## PATMAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION		
				112	182	232	112	182	232	182
5 / 1 / 76	A	89	122			48			7.33	
5 / 2 / 76	A	130	131			24			5.00	M
5 / 3 / 76	A	193	123			60			5.38	V
5 / 4 / 76	A	34	105			53			6.00	M
5 / 5 / 76	A	28	91			136			3.28	V
5 / 6 / 76	A	30	123			98			4.43	V
5 / 7 / 76	A	54	132			102			4.47	V
5 / 8 / 76	A	96	140			127			5.05	V
5 / 9 / 76	A	28	84			5			5.75	V
5 / 10 / 76	A	17	39			43			6.00	V
5 / 11 / 76	A	16	93			211			7.07	V
5 / 12 / 76	A	49	93			93			3.33	V
5 / 13 / 76	A	13	58			70			3.58	V
5 / 14 / 76	A	35	248			157			6.17	V
5 / 15 / 76	A	104	127			25			5.12	V
5 / 16 / 76	A	85	120			322			7.25	M
5 / 17 / 76	A	34	105			97			5.33	M
5 / 18 / 76	A	62	97			110			6.12	I
5 / 19 / 76	A	65	122			104			7.50	V
5 / 20 / 76	A	69	222			168			6.87	V
5 / 21 / 76	A	35	228			92			5.22	V
5 / 22 / 76	A	34	144			40			9.17	V
5 / 23 / 76	A	39	90			32			5.05	V
5 / 24 / 76	A	19	223			43			7.17	M
5 / 25 / 76	A	25	103			68			5.33	M
5 / 26 / 76	A	25	74			47			2.75	V
5 / 27 / 76	A	18	70			188			3.57	V
5 / 28 / 76	A	11	64			30			4.42	V
5 / 29 / 76	A	76	121			39			0.	V
5 / 30 / 76	A	48	122			19			0.58	V
5 / 31 / 76	A	73	276						4.00	V
									3.92	V
									7.67	M
									5.86	M
									6.42	V

# PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS			LENGTH (MINS.)			WEATHER CONDITION		
		112	182	232	112	182	232	112	182	232
5 / 1 / 76	B	17	42	10	0.	6.22	7.08	M	V	I
5 / 1 / 76	B	20	37	2	0.	5.18	5.25	V	V	V
5 / 3 / 76	B	8	29	8	4.38	6.62	5.17	M	V	V
5 / 4 / 76	B	7	19	9	4.28	5.83	5.12	V	V	V
5 / 5 / 76	B	8	16	22	4.55	4.47	7.00	V	V	V
5 / 5 / 76	B	13	31	22	4.55	6.75	7.07	V	V	V
5 / 7 / 76	B	21	49	42	7.30	7.00	6.95	V	V	M
5 / 8 / 76	B	22	69	9	4.30	5.83	5.00	V	V	V
5 / 8 / 76	B	11	31	9	4.35	4.44	5.38	V	V	V
5 / 9 / 76	B	4	14	9	4.55	3.83	7.17	V	V	V
5 / 10 / 76	B	12	23	41	6.35	4.73	7.78	V	V	V
5 / 11 / 76	B	9	29	12	7.92	7.50	4.05	M	V	V
5 / 12 / 76	B	5	24	13	0.	4.67	5.05	V	V	V
5 / 13 / 76	B	15	85	43	5.27	6.75	7.33	M	M	V
5 / 14 / 76	B	15	30	10	7.33	5.17	5.50	M	M	V
5 / 15 / 76	B	25	30	10	0.	5.97	7.25	I	I	I
5 / 16 / 76	B	4	24	18	0.	7.67	8.17	I	I	V
5 / 17 / 76	B	14	26	20	0.	7.65	7.40	I	V	V
5 / 18 / 76	B	14	46	21	0.	7.45	7.10	M	V	V
5 / 19 / 76	B	19	58	40	0.	6.08	6.92	M	V	V
5 / 20 / 76	B	12	66	22	6.25	7.00	5.37	M	M	V
5 / 21 / 76	B	6	31	5	4.48	6.08	5.42	V	V	V
5 / 22 / 76	B	9	27	5	0.	4.17	4.92	V	V	V
5 / 23 / 76	B	11	24	18	0.	7.67	4.53	V	V	V
5 / 24 / 76	B	14	40	22	0.	0.	4.62	V	V	V
5 / 25 / 76	B	14	25	23	0.	5.92	6.20	V	V	V
5 / 26 / 76	B	19	54	38	4.75	4.92	0.	V	V	V
5 / 27 / 76	B	1	22	32	4.78	4.42	4.75	V	V	V
5 / 28 / 76	B	25	53	9	5.75	0.	5.52	V	V	V
5 / 29 / 76	B	16	25	11	0.	5.30	5.75	I	M	M
5 / 30 / 76	B	25	67	0	0.	5.75	7.33	M	M	M

# PATNAS DATA REDUCTION

DATE	LINE	NO. OF CALLS			LENGTH (MINS.)			WEATHER CONDITION		
		112	182	232	112	182	232	112	182	232
5 / 1 / 76	C	29	32	12	0.	6.45	0.	M	M	I
5 / 2 / 76	C	32	25	5	0.	5.13	0.08	V	V	V
5 / 3 / 76	C	30	40	12	8.25	7.23	5.30	M	V	V
5 / 4 / 76	C	14	26	8	5.38	4.88	5.17	V	V	V
5 / 5 / 76	C	11	36	26	5.58	4.50	6.08	V	V	V
5 / 6 / 76	C	16	23	15	7.57	7.92	7.17	V	V	V
5 / 7 / 76	C	12	43	33	7.58	6.75	7.12	V	V	V
5 / 8 / 76	C	18	37	21	5.13	5.00	5.17	V	V	M
5 / 9 / 76	C	15	46	4	3.83	4.32	4.17	V	V	V
5 / 10 / 76	C	3	17	15	6.75	3.75	4.05	V	V	V
5 / 11 / 76	C	7	25	51	9.42	7.58	7.67	V	V	I
5 / 12 / 76	C	7	27	20	9.42	7.58	4.60	M	V	V
5 / 13 / 76	C	5	30	22	0.	4.08	3.27	V	V	V
5 / 14 / 76	C	11	75	45	5.18	7.05	7.33	M	M	V
5 / 15 / 76	C	28	46	13	7.50	5.42	6.00	M	V	V
5 / 16 / 76	C	15	44	12	0.	6.05	7.58	I	I	I
5 / 17 / 76	C	11	32	33	0.	5.75	8.33	I	V	V
5 / 18 / 76	C	19	26	38	0.	8.07	6.80	I	V	V
5 / 19 / 76	C	28	48	29	0.	8.02	8.13	M	V	V
5 / 20 / 76	C	14	36	32	0.	6.00	7.23	M	V	V
5 / 21 / 76	C	27	67	24	6.08	6.92	0.	M	M	V
5 / 22 / 76	C	17	45	9	4.67	4.33	4.17	V	V	V
5 / 23 / 76	C	8	35	6	0.	4.00	4.42	V	V	V
5 / 24 / 76	C	9	34	29	0.	4.08	4.60	V	V	V
5 / 25 / 76	C	12	36	30	0.	0.	5.23	V	V	V
5 / 26 / 76	C	9	40	40	0.	6.17	6.33	V	V	V
5 / 27 / 76	C	18	43	68	4.67	4.92	0.	V	V	V
5 / 28 / 76	C	7	39	43	4.97	4.83	6.58	V	V	V
5 / 29 / 76	C	47	32	19	6.17	0.	5.47	V	V	V
5 / 30 / 76	C	19	40	13	0.	6.67	6.92	I	M	M
5 / 31 / 76	C	35	58	9	0.	6.93	7.00	M	M	V



## PATNAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION		
				11Z	18Z	23Z	11Z	18Z	23Z	
7 / 1 / 76	A	112	18Z	23Z	11Z	18Z	23Z	11Z	18Z	23Z
7 / 2 / 76	A	240	195	135	7.43	5.92	4.20	I	V	V
7 / 3 / 76	A	72	219	43	3.67	0.00	3.08	V	V	V
7 / 4 / 76	A	45	110	52	5.20	4.35	7.08	V	V	V
7 / 5 / 76	A	34	87	5	4.67	4.33	7.17	V	V	V
7 / 6 / 76	A	28	94	10	6.58	2.50	6.30	M	V	V
7 / 7 / 76	A	12	55	170	5.75	4.75	4.67	M	V	V
7 / 8 / 76	A	47	179	112	5.45	7.00	6.80	M	M	V
7 / 9 / 76	A	67	140	105	6.75	0.00	6.00	M	M	V
7 / 10 / 76	A	192	84	77	6.67	5.25	6.75	M	V	V
7 / 11 / 76	A	37	201	357	5.80	5.33	4.42	V	V	V
7 / 12 / 76	A	135	72	72	5.55	6.95	6.25	V	V	V
7 / 13 / 76	A	112	153	93	4.63	0.00	5.33	V	V	V
7 / 14 / 76	A	56	137	164	4.28	5.00	7.17	V	V	V
7 / 15 / 76	A	63	67	127	4.37	4.67	4.15	V	V	V
7 / 16 / 76	A	36	239	127	7.70	7.50	7.75	V	V	V
7 / 17 / 76	A	79	196	22	7.08	4.52	4.83	M	V	V
7 / 18 / 76	A	30	55	8	3.67	4.08	3.83	V	V	V
7 / 19 / 76	A	18	55	34	3.87	3.42	3.92	V	V	V
7 / 20 / 76	A	31	52	76	4.50	3.62	3.50	V	V	V
7 / 21 / 76	A	250	104	82	4.25	0.00	7.08	V	V	V
7 / 22 / 76	A	51	119	56	5.08	4.92	4.28	V	V	V
7 / 23 / 76	A	64	164	119	5.75	0.00	5.67	V	V	V
7 / 24 / 76	A	91	215	132	0.75	0.83	2.08	I	V	V
7 / 25 / 76	A	35	68	11	3.58	2.75	2.17	V	V	V
7 / 26 / 76	A	15	47	41	3.32	4.17	0.00	V	V	V
7 / 27 / 76	A	23	126	76	6.83	4.25	9.67	V	V	V
7 / 28 / 76	A	17	185	68	5.17	3.25	3.08	M	V	V
7 / 29 / 76	A	56	188	80	7.00	7.17	0.00	I	V	V
7 / 30 / 76	A	68	172	122	6.72	6.67	0.00	M	V	V
7 / 31 / 76	A	187	158	33	6.37	6.12	6.07	M	V	V

## WEATHER CONTROL.

7-11

# PATMAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION		
				112	182	232	232	112	182	232
7 / 1 / 76	C	47	51	8.92	5.25	21	4.97	I	V	V
7 / 1 / 76	C	11	51	4.08	0.00	18	3.75	V	V	V
7 / 3 / 76	C	19	27	5.90	5.50	17	6.92	V	V	V
7 / 3 / 76	C	6	14	6.83	4.67	7	6.50	V	V	V
7 / 4 / 76	C	11	30	6.32	2.75	11	5.42	M	V	V
7 / 5 / 76	C	10	24	5.67	5.00	18	0.00	M	V	V
7 / 6 / 76	C	16	41	6.08	6.87	34	8.63	M	V	V
7 / 7 / 76	C	17	59	7.23	0.00	15	9.28	M	V	V
7 / 8 / 76	C	37	37	6.83	5.25	26	7.58	V	V	V
7 / 9 / 76	C	10	18	6.08	5.58	3	7.28	V	V	V
7 / 10 / 76	C	19	16	8.28	6.37	101	7.23	V	V	V
7 / 11 / 76	C	53	40	6.83	0.00	73	8.88	V	V	V
7 / 12 / 76	C	31	54	7.17	7.00	36	6.00	V	V	V
7 / 13 / 76	C	19	43	6.88	8.33	21	6.33	V	V	V
7 / 14 / 76	C	6	41	7.75	5.17	32	5.50	V	V	V
7 / 15 / 76	C	15	91	7.38	7.58	49	7.33	V	V	V
7 / 16 / 76	C	32	50	6.50	4.75	4	6.17	M	V	V
7 / 17 / 76	C	10	23	4.17	0.00	7	5.08	V	V	V
7 / 18 / 76	C	4	21	5.25	4.08	8	3.83	V	V	V
7 / 19 / 76	C	11	26	7.00	3.73	22	5.83	V	V	V
7 / 20 / 76	C	13	31	5.00	0.00	26	0.00	V	V	V
7 / 21 / 76	C	29	40	5.83	4.50	23	0.00	V	V	V
7 / 22 / 76	C	20	55	6.83	0.00	33	8.25	V	V	V
7 / 23 / 76	C	19	47	0.00	5.33	9	6.08	I	V	V
7 / 24 / 76	C	11	25	3.75	2.78	4	2.37	V	V	V
7 / 25 / 76	C	10	16	2.50	5.25	16	0.00	V	V	V
7 / 26 / 76	C	18	60	6.17	7.28	17	5.50	V	V	V
7 / 27 / 76	C	7	27	6.08	3.17	17	3.47	M	V	V
7 / 28 / 76	C	18	50	7.58	7.58	36	7.37	I	V	V
7 / 29 / 76	C	30	67	6.38	0.00	47	0.00	M	V	V
7 / 30 / 76	C	56	46	7.33	6.50	6	6.58	M	V	V

PATWAS DATA P. 100-101									
DATE	LINE	NO. OF CALLS		LENGTH (MIN.)			WEATHER CONDITION		
		112	182	182	182	182	112	182	232
8 / 1 / 76	A	81	152	21	0.	3.55	V	V	V
8 / 2 / 76	A	34	52	52	5.08	3.00	V	V	V
8 / 3 / 76	A	23	52	47	5.08	3.00	V	V	V
8 / 4 / 76	A	40	50	37	4.42	3.73	V	V	V
8 / 5 / 76	A	-0	-0	55	5.55	5.03	V	V	V
8 / 6 / 76	A	26	112	124	5.17	6.25	V	V	M
8 / 7 / 76	A	70	112	71	7.98	4.72	V	V	V
8 / 8 / 76	A	58	140	60	6.75	5.92	V	V	V
8 / 9 / 76	A	118	913	52	8.00	6.00	I	I	M
8 / 10 / 76	A	255	115	75	5.28	4.05	V	V	V
8 / 11 / 76	A	77	74	55	3.73	6.81	V	V	V
8 / 12 / 76	A	44	77	46	3.60	9.32	V	V	V
8 / 13 / 76	A	121	141	95	4.43	3.97	M	M	M
8 / 14 / 76	A	81	216	56	0.	5.50	V	V	V
8 / 15 / 76	A	41	79	43	5.50	4.60	M	V	M
8 / 16 / 76	A	24	55	52	5.75	4.58	V	V	V
8 / 17 / 76	A	18	41	34	0.	3.50	V	V	V
8 / 18 / 76	A	17	36	38	3.55	4.67	V	V	V
8 / 19 / 76	A	17	36	36	0.	2.10	V	V	V
8 / 20 / 76	A	30	55	38	2.17	5.25	V	V	V
8 / 21 / 76	A	31	72	41	5.02	2.58	V	V	V
8 / 22 / 76	A	26	111	7	3.02	3.67	M	V	V
8 / 23 / 76	A	10	-0	-0	3.17	4.33	V	V	V
8 / 24 / 76	A	26	121	121	3.45	3.42	V	V	V
8 / 25 / 76	A	44	143	109	4.83	3.58	M	V	V
8 / 26 / 76	A	83	142	122	5.07	8.02	I	V	V
8 / 27 / 76	A	94	182	72	0.	9.02	M	M	M
8 / 28 / 76	A	186	148	61	4.28	3.67	V	V	V
8 / 29 / 76	A	18	95	53	0.	4.25	V	V	V
8 / 30 / 76	A	28	104	95	3.47	0.	V	V	V
8 / 31 / 76	A		100	37	0.	0.	V	V	V

## PATMAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)				WEATHER CONDITION		
				11Z	18Z	23Z	11Z	18Z	23Z	
8 / 1 / 76	B	11Z	18Z	23Z	11Z	18Z	23Z	11Z	18Z	23Z
8 / 2 / 76	B	21	72	11	0.	5.67	5.67	V	V	V
8 / 3 / 76	B	27	29	19	6.17	5.52	5.63	V	V	V
8 / 4 / 76	B	8	26	32	4.25	5.17	5.17	V	V	V
8 / 5 / 76	B	21	33	8	6.08	5.33	4.05	V	V	V
8 / 6 / 76	B	20	0	22	6.33	4.85	5.20	V	V	V
8 / 7 / 76	B	23	89	68	7.62	7.92	7.08	V	V	M
8 / 8 / 76	B	21	54	23	7.92	5.75	6.42	V	V	V
8 / 9 / 76	B	15	42	24	9.45	6.67	7.25	V	V	M
8 / 10 / 76	B	42	132	146	0.	6.32	0.	V	V	V
8 / 11 / 76	B	32	51	26	8.30	8.20	8.28	V	V	V
8 / 12 / 76	B	18	26	19	5.25	3.87	7.83	V	V	V
8 / 13 / 76	B	6	47	27	5.77	0.	6.62	V	V	V
8 / 14 / 76	B	14	109	55	4.62	5.33	7.33	V	V	V
8 / 15 / 76	B	50	54	19	0.	4.55	9.17	V	V	V
8 / 16 / 76	B	21	79	8	6.00	6.18	9.50	V	V	M
8 / 17 / 76	B	14	44	18	7.17	5.92	4.92	V	V	V
8 / 18 / 76	B	12	29	10	0.	4.72	5.42	V	V	V
8 / 19 / 76	B	4	23	21	5.18	4.83	5.35	V	V	V
8 / 20 / 76	B	9	58	33	4.03	0.	4.27	V	V	V
8 / 21 / 76	B	13	33	8	5.25	3.17	4.80	V	V	V
8 / 22 / 76	B	17	46	4	5.17	3.58	5.58	V	V	V
8 / 23 / 76	B	12	0	0	8.82	0.	4.80	V	V	V
8 / 24 / 76	B	11	34	11	5.58	4.75	4.83	V	V	V
8 / 25 / 76	B	6	51	22	5.83	6.00	6.07	V	V	V
8 / 26 / 76	B	7	79	40	7.60	6.38	9.00	V	V	M
8 / 27 / 76	B	41	58	53	0.	0.	8.50	V	V	V
8 / 28 / 76	B	27	50	20	6.78	5.50	6.33	V	V	V
8 / 29 / 76	B	19	77	16	8.70	0.	0.	V	V	V
8 / 30 / 76	B	17	0	10	5.25	0.	0.	V	V	V
8 / 31 / 76	B	18	20	13	0.	0.	0.	V	V	V



# PATWAS DATA REDUCTION

DATE	TIME	NO. OF CALLS			LENGTH (MINS.)			WEATHER CONDITION		
		112	182	232	112	182	232	112	182	232
8 / 1 / 76	C	22	41	3	0.50	0.	4.25	V	V	V
8 / 2 / 76	C	17	23	20	5.50	5.17	5.42	V	V	V
8 / 3 / 76	C	3	32	7	5.17	4.25	4.75	V	V	V
8 / 4 / 76	C	13	22	8	5.15	3.22	3.82	V	V	V
8 / 5 / 76	C	0	57	16	6.67	4.67	5.17	V	V	V
8 / 6 / 76	C	16	49	56	7.75	7.08	6.75	V	V	M
8 / 7 / 76	C	16	44	27	7.75	4.93	6.75	V	V	V
8 / 8 / 76	C	40	237	190	0.03	6.75	6.25	I	V	M
8 / 9 / 76	C	48	35	15	0.	6.23	0.	I	I	M
8 / 10 / 76	C	5	33	15	6.57	5.38	5.45	M	V	V
8 / 11 / 76	C	3	38	25	6.13	2.83	7.50	V	V	V
8 / 12 / 76	C	13	77	23	6.03	0.	6.38	M	V	V
8 / 13 / 76	C	23	32	9	4.78	5.17	7.38	M	V	V
8 / 14 / 76	C	13	44	13	0.	4.35	9.00	M	M	M
8 / 15 / 76	C	12	31	10	7.08	5.53	7.83	V	V	M
8 / 16 / 76	C	5	17	10	7.22	4.32	4.37	V	V	M
8 / 17 / 76	C	6	24	12	0.53	4.33	5.45	V	V	V
8 / 18 / 76	C	8	13	10	4.42	4.85	4.04	V	V	V
8 / 19 / 76	C	10	23	28	0.	0.	3.32	V	V	V
8 / 20 / 76	C	15	27	11	4.42	0.	4.42	V	V	V
8 / 21 / 76	C	17	20	8	5.03	2.83	4.20	V	V	V
8 / 22 / 76	C	11	18	0	5.67	3.12	4.68	V	V	V
8 / 23 / 76	C	10	20	12	7.32	0.	5.08	V	V	V
8 / 24 / 76	C	7	28	20	5.90	4.67	4.75	V	V	V
8 / 25 / 76	C	9	53	30	8.30	0.	6.88	M	V	V
8 / 26 / 76	C	27	50	39	0.	5.36	8.75	I	V	V
8 / 27 / 76	C	27	43	23	7.13	4.42	8.83	M	I	I
8 / 28 / 76	C	27	61	12	8.25	0.	6.17	M	V	V
8 / 29 / 76	C	5	0	10	5.67	0.	4.83	I	V	V
8 / 30 / 76	C	2	27	10	0.	0.	0.	V	V	V
8 / 31 / 76	C	2	27	10	0.	0.	0.	V	V	V

PATWAS DATA REDUCTION

NUMBER OF CALLS  
CATEGORIZED BY ROUTE AND BY WEATHER CONDITION  
GRAND TOTAL

	IFR	MVFR	IFR	TOTAL
LOCAL NYC AREA	18405	3662	1421	23688
ROUTES NORTHBOUND	6161	1266	453	8280
ROUTES SOUTH + WESTBOUND	5412	964	409	6985
TOTAL	30778	5892	2283	38953

NUMBER OF CALLS  
CATEGORIZED BY ROUTE AND BY TIME PERIOD  
GRAND TOTAL

	11Z	18Z	23Z	TOTAL
LOCAL NYC AREA	4572	12074	5642	23688
ROUTES NORTHBOUND	1455	4343	2272	8280
ROUTES SOUTH + WESTBOUND	1485	3318	2182	6985
TOTAL	8122	19735	11096	38953

# PATNAS DATA REDUCTION

DATE	LINE	NO. OF CALLS			LENGTH (MINS.)			WEATHER CONDITION		
		112	182	232	112	182	232	112	182	232
6 / 1 / 76	A	50	123	49				I	V	M
6 / 2 / 76	A	52	165	83				M	V	V
6 / 3 / 76	A	22	90	91				V	V	V
6 / 4 / 76	A	57	139	106				V	V	V
6 / 5 / 76	A	95	118	38				V	V	V
6 / 6 / 76	A	79	319	82				V	V	V
6 / 7 / 76	A	80	153	89				V	V	V
6 / 8 / 76	A	75	140	88				M	M	M
6 / 9 / 76	A	116	116	104				M	V	V
6 / 10 / 76	A	53	91	473				V	V	V
6 / 11 / 76	A	76	38	157				V	V	V
6 / 12 / 76	A	11	32	41				V	V	V
6 / 13 / 76	A	43	96	118				V	V	V
6 / 14 / 76	A	61	143	310				M	M	V
6 / 15 / 76	A	58	167	81				M	M	V
6 / 16 / 76	A	58	139	99				V	V	V
6 / 17 / 76	A	55	130	129				M	V	V
6 / 18 / 76	A	62	221	144				M	V	V
6 / 19 / 76	A	90	265	50				I	M	I
6 / 20 / 76	A	77	217	80				I	M	M
6 / 21 / 76	A	48	234	83				I	M	V
6 / 22 / 76	A	25	171	100				M	V	V
6 / 23 / 76	A	86	216	118				I	V	V
6 / 24 / 76	A	45	200	109				M	V	V
6 / 25 / 76	A	134	149	105				V	V	V
6 / 26 / 76	A	72	161	34				V	V	V
6 / 27 / 76	A	18	146	56				V	V	V
6 / 28 / 76	A	19	144	73				V	V	V
6 / 29 / 76	A	21	278	91				M	V	V
6 / 30 / 76	A	117	317	171				M	V	I

## PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)			WEATHER CONDITION			
		112	182	232	112	182	232	112	182	232
6 / 1 / 76	B	8	34	20				I	V	M
6 / 2 / 76	B	14	52	33				M	V	V
6 / 3 / 76	B	6	22	25				V	V	V
6 / 4 / 76	B	30	52	50				V	V	V
6 / 5 / 76	B	33		17				V	V	V
6 / 6 / 76	B	33	136	46				V	V	V
6 / 7 / 76	B	34	65	27				V	V	V
6 / 8 / 76	B	17	55	24				V	V	V
6 / 9 / 76	B	34	53	23				M	M	M
6 / 10 / 76	B	20	41	238				V	V	V
6 / 11 / 76	B	41	22	32				V	V	V
6 / 12 / 76	B	5	18	7				V	V	V
6 / 13 / 76	B	20	39	20				V	V	V
6 / 14 / 76	B	20	31	65				V	V	V
6 / 15 / 76	B	14	51	36				M	M	M
6 / 16 / 76	B	20	59	26				V	V	V
6 / 17 / 76	B	12	64	44				V	V	V
6 / 18 / 76	B	18	113	38				M	M	M
6 / 19 / 76	B	25	100	17				M	M	M
6 / 20 / 76	B	14	59	13				I	V	I
6 / 21 / 76	B	12	67	30				I	V	V
6 / 22 / 76	B	18	77	18				I	V	V
6 / 23 / 76	B	35	84	27				I	V	V
6 / 24 / 76	B	12	75	30				V	V	V
6 / 25 / 76	B	67	61	63				V	V	V
6 / 26 / 76	B	22	80	8				V	V	V
6 / 27 / 76	B	20	67	13				V	V	V
6 / 28 / 76	B	100	53	30				V	V	V
6 / 29 / 76	B	112	8	46				V	V	V
6 / 30 / 76	B	38	87	42				M	M	M

7-18

# PATNAS DATA REDUCTION

DATE	LINE	NO. OF CALLS	LENGTH (MINS.)	WEATHER CONDITION
		112	182	112
6 / 1 / 76	C	35	232	I
6 / 2 / 76	C	40	24	M
6 / 3 / 76	C	27	33	V
6 / 4 / 76	C	55	19	V
6 / 5 / 76	C	13	26	V
6 / 6 / 76	C	41	10	V
6 / 7 / 76	C	7	11	V
6 / 8 / 76	C	17	12	V
6 / 9 / 76	C	17	11	M
6 / 10 / 76	C	45	226	M
6 / 11 / 76	C	20	176	V
6 / 12 / 76	C	11	22	V
6 / 13 / 76	C	43	13	V
6 / 14 / 76	C	9	15	V
6 / 15 / 76	C	14	45	V
6 / 16 / 76	C	23	21	M
6 / 17 / 76	C	10	22	M
6 / 18 / 76	C	22	41	V
6 / 19 / 76	C	42	36	V
6 / 20 / 76	C	18	9	I
6 / 21 / 76	C	13	10	I
6 / 22 / 76	C	8	22	M
6 / 23 / 76	C	9	42	M
6 / 24 / 76	C	4	34	V
6 / 25 / 76	C	40	24	V
6 / 26 / 76	C	18	35	V
6 / 27 / 76	C	8	8	V
6 / 28 / 76	C	3	14	V
6 / 29 / 76	C	9	16	V
6 / 30 / 76	C	20	27	M



# PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)			WEATHER CONDITION	
		112	182	232	112	182	232	182
9 / 1 / 76	A	39	201	105	V	V	V	V
9 / 2 / 76	A	-0	75	75	V	M	V	V
9 / 3 / 76	A	62	74	46	V	M	V	V
9 / 4 / 76	A	38	169	46	V	V	V	V
9 / 5 / 76	A	69	276	33	I	V	V	V
9 / 6 / 76	A	59	94	16	V	V	V	V
9 / 7 / 76	A	19	50	42	V	V	V	V
9 / 8 / 76	A	-0	47	52	V	V	V	V
9 / 9 / 76	A	45	59	94	V	V	V	V
9 / 10 / 76	A	15	64	94	I	I	V	V
9 / 11 / 76	A	78	103	46	V	V	V	V
9 / 12 / 76	A	31	94	10	V	V	V	V
9 / 13 / 76	A	-0	33	32	V	V	V	V
9 / 14 / 76	A	18	67	78	V	V	V	V
9 / 15 / 76	A	41	111	59	V	V	V	V
9 / 16 / 76	A	55	110	123	V	V	V	V
9 / 17 / 76	A	64	192	34	I	V	V	V
9 / 18 / 76	A	83	257	21	I	V	V	V
9 / 19 / 76	A	40	122	66	V	V	V	V
9 / 20 / 76	A	23	175	65	V	V	V	V
9 / 21 / 76	A	44	130	38	M	V	V	V
9 / 22 / 76	A	39	167	67	V	V	V	V
9 / 23 / 76	A	31	95	70	V	V	V	V
9 / 24 / 76	A	35	80	31	V	V	V	V
9 / 25 / 76	A	35	70	31	V	V	V	V
9 / 26 / 76	A	71	186	19	V	V	V	V
9 / 27 / 76	A	34	111	47	V	V	V	V
9 / 28 / 76	A	39	51	14	M	V	V	V
9 / 29 / 76	A	61	56	35	V	V	V	V
9 / 30 / 76	A	33	104	84	M	V	V	V

# PATWAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)		WEATHER CONDITION	
		112	182	232	112	182	232
9 / 1 / 76	B	19	31	29	V	V	V
9 / 2 / 76	B	-0	-0	32	V	M	V
9 / 3 / 76	B	25	62	36	V	V	V
9 / 4 / 76	B	24	76	12	V	V	V
9 / 5 / 76	B	27	111	21	I	V	V
9 / 6 / 76	B	22	58	6	V	V	V
9 / 7 / 76	B	7	16	12	V	V	V
9 / 8 / 76	B	-0	-0	22	V	V	V
9 / 9 / 76	B	10	22	14	V	V	V
9 / 10 / 76	B	34	56	49	I	I	V
9 / 11 / 76	B	26	48	10	V	V	V
9 / 12 / 76	B	22	34	3	V	V	V
9 / 13 / 76	B	-0	-0	13	V	V	V
9 / 14 / 76	B	9	30	13	V	V	V
9 / 15 / 76	B	13	47	13	V	V	V
9 / 16 / 76	B	11	38	22	V	V	V
9 / 17 / 76	B	19	69	53	I	V	V
9 / 18 / 76	B	22	87	8	V	V	V
9 / 19 / 76	B	20	65	4	V	V	V
9 / 20 / 76	B	3	37	22	V	V	V
9 / 21 / 76	B	18	32	13	V	V	V
9 / 22 / 76	B	14	101	35	M	V	V
9 / 23 / 76	B	11	30	15	V	V	V
9 / 24 / 76	B	2	54	36	V	V	V
9 / 25 / 76	B	17	32	13	V	V	V
9 / 26 / 76	B	21	54	9	V	V	V
9 / 27 / 76	B	5	29	11	M	V	V
9 / 28 / 76	B	10	38	9	V	V	V
9 / 29 / 76	B	3	27	11	V	V	V
9 / 30 / 76	B	10	34	37	M	V	M

PATWAS DATA REDUCTION									
DATE	LINE	NO. OF CALLS		LENGTH (MINS.)			WEATHER CONDITION		
		112	182	232	112	182	232	112	182
9 / 1 / 76	C	5	42	32				V	V
9 / 2 / 76	C	-0	-C	23				V	V
9 / 3 / 76	C	22	45	29				V	V
9 / 4 / 76	C	14	55	11				V	V
9 / 5 / 76	C	18	78	6				V	V
9 / 6 / 76	C	21	34	2				V	V
9 / 7 / 76	C	6	23	8				V	V
9 / 8 / 76	C	-0	-C	10				V	V
9 / 9 / 76	C	7	28	17				V	V
9 / 10 / 76	C	55	20	31				V	V
9 / 11 / 76	C	31	30	10				V	V
9 / 12 / 76	C	9	19	12				V	V
9 / 13 / 76	C	-0	-C	8				V	V
9 / 14 / 76	C	11	28	13				V	V
9 / 15 / 76	C	14	29	22				V	V
9 / 16 / 76	C	27	35	22				V	V
9 / 17 / 76	C	20	53	45				V	V
9 / 18 / 76	C	25	89	4				V	V
9 / 19 / 76	C	3	28	8				V	V
9 / 20 / 76	C	6	29	18				V	V
9 / 21 / 76	C	21	36	26				V	V
9 / 22 / 76	C	10	96	13				V	V
9 / 23 / 76	C	8	21	11				V	V
9 / 24 / 76	C	14	32	23				V	V
9 / 25 / 76	C	-0	-C	11				V	V
9 / 26 / 76	C	12	53	15				V	V
9 / 27 / 76	C	18	30	10				V	V
9 / 28 / 76	C	10	29	14				V	V
9 / 29 / 76	C	11	58	30				V	V
9 / 30 / 76	C	17	46					V	V

# PATNAS DATA REDUCTION

DATE	LINE	NO. OF CALLS		LENGTH (MINS.)		WEATHER CONDITION		
		112	182	232	112	182	232	232
10 / 1 / 76	A	23	131	129	I	I	H	
10 / 2 / 76	A	117	192	46	M	V	V	
10 / 3 / 76	A	119	175	30	M	M	V	
10 / 4 / 76	A	66	80	25	V	V	V	
10 / 5 / 76	A	40	119	104	V	V	V	
10 / 6 / 76	A	52	154	83	I	M	V	
10 / 7 / 76	A	46	120	73	I	V	V	
10 / 8 / 76	A	49	170	88	V	V	V	
10 / 9 / 76	A	87	188	92	I	M	V	
10 / 10 / 76	A	57	262	29	V	V	V	
10 / 11 / 76	A	38	110	23	V	V	V	
10 / 12 / 76	A	18	-0	-0	V	V	V	
10 / 13 / 76	A	29	47	37	V	V	V	
10 / 14 / 76	A	158	57	45	V	V	V	
10 / 15 / 76	A	24	357	73	V	V	V	
10 / 16 / 76	A	73	154	38	V	V	V	
10 / 17 / 76	A	58	182	179	V	V	V	
10 / 18 / 76	A	69	-0	-0	V	V	V	
10 / 19 / 76	A	94	60	41	V	V	V	
10 / 20 / 76	A	42	87	75	V	V	V	
10 / 21 / 76	A	42	124	73	V	V	V	
10 / 22 / 76	A	42	118	80	V	V	V	
10 / 23 / 76	A	73	144	41	V	V	V	
10 / 24 / 76	A	105	220	21	V	V	V	
10 / 25 / 76	A	48	87	65	M	M	V	
10 / 26 / 76	A	40	125	68	V	V	V	
10 / 27 / 76	A	29	94	61	V	V	V	
10 / 28 / 76	A	47	52	44	V	V	V	
10 / 29 / 76	A	12	85	48	V	V	V	
10 / 30 / 76	A	39	121	33	V	V	V	
10 / 31 / 76	A	40	165	19	V	V	V	

## PATWAS DATA REDUCTION

DATE	LINE	NO. OF CILLS		LENGTH (MINS.)		WEATHER CONDITION		
		112	182	232	112	182	232	
10 / 1 / 76	B	7	67	55	I	I	M	
10 / 2 / 76	B	23	68	6	M	V	V	
10 / 3 / 76	B	35	64	7	M	M	M	
10 / 4 / 76	B	20	20	9	V	V	V	
10 / 5 / 76	B	7	35	22	V	V	V	
10 / 6 / 76	B	13	42	27	I	M	M	
10 / 7 / 76	B	14	40	19	I	V	V	
10 / 8 / 76	B	15	76	42	V	V	V	
10 / 9 / 76	B	26	72	17	I	M	V	
10 / 10 / 76	B	24	64	5	V	V	V	
10 / 11 / 76	B	12	33	5	V	V	V	
10 / 12 / 76	B	8	0	0	V	V	V	
10 / 13 / 76	B	12	12	13	V	V	V	
10 / 14 / 76	B	10	31	21	V	V	V	
10 / 15 / 76	B	9	60	19	V	V	V	
10 / 16 / 76	B	20	60	10	V	V	V	
10 / 17 / 76	B	22	48	50	V	V	V	
10 / 18 / 76	B	12	17	19	V	V	V	
10 / 19 / 76	B	10	22	10	V	V	V	
10 / 20 / 76	B	10	29	15	V	V	I	
10 / 21 / 76	B	4	34	15	V	V	V	
10 / 22 / 76	B	18	52	30	V	V	V	
10 / 23 / 76	B	23	51	26	V	V	V	
10 / 24 / 76	B	30	50	9	V	V	V	
10 / 25 / 76	B	13	28	13	M	M	M	
10 / 26 / 76	B	6	33	22	V	V	V	
10 / 27 / 76	B	15	27	12	V	V	V	
10 / 28 / 76	B	28	23	11	V	V	V	
10 / 29 / 76	B	5	23	18	V	V	V	
10 / 30 / 76	B	20	40	13	V	V	V	
10 / 31 / 76	B	6	25	7	V	V	V	



# PATMAS DATA REDUCTION

DATE	LINE	NO. OF CALLS			LENGTH (MINS.)			WEATHER CONDITION		
		112	182	232	112	182	232	112	182	232
10 / 1 / 76	C	112	182	232	112	182	232	112	182	232
10 / 2 / 76	C	4	56	55				I		
10 / 3 / 76	C	37	104	17				M		
10 / 4 / 76	C	24	47	15				M		
10 / 5 / 76	C	19	17	6				V		
10 / 6 / 76	C	23	26	25				V		
10 / 7 / 76	C	11	48	18				M		
10 / 8 / 76	C	27	39	30				I		
10 / 9 / 76	C	30	67	45				V		
10 / 10 / 76	C	37	67	22				I		
10 / 11 / 76	C	8	47	10				V		
10 / 12 / 76	C	5	24	6				V		
10 / 13 / 76	C	16	-0	-0				V		
10 / 14 / 76	C	15	22	15				V		
10 / 15 / 76	C	6	32	27				V		
10 / 16 / 76	C	29	77	58				V		
10 / 17 / 76	C	15	30	11				V		
10 / 18 / 76	C	6	36	59				V		
10 / 19 / 76	C	-0	17	81				V		
10 / 20 / 76	C	14	-0	-0				V		
10 / 21 / 76	C	17	35	36				V		
10 / 22 / 76	C	15	34	20				V		
10 / 23 / 76	C	15	47	36				V		
10 / 24 / 76	C	24	50	5				V		
10 / 25 / 76	C	23	39	7				V		
10 / 26 / 76	C	21	30	21				M		
10 / 27 / 76	C	19	21	12				V		
10 / 28 / 76	C	12	23	15				V		
10 / 29 / 76	C	7	11	4				V		
10 / 30 / 76	C	8	20	17				V		
10 / 31 / 76	C	4	37	12				V		
			34	6				V		

HOURS	TOTAL		IFR		VFR		MVFR	
	MESSAGE ACTIVITY	AVERAGE MIN SEC	MESSAGE ACTIVITY	AVERAGE MIN SEC	MESSAGE ACTIVITY	AVERAGE MIN SEC	MESSAGE ACTIVITY	AVERAGE MIN SEC
00-01	467	3 38	60	3 23	314	3 31	93	4 9
01-02	278	3 32	43	3 14	185	3 18	50	4 40
02-03	174	3 21	30	2 53	118	3 14	26	4 24
03-04	71	3 12	7	6 47	51	2 47	13	2 55
04-05	107	3 15	13	3 22	65	3 3	29	3 38
05-06	218	3 9	32	3 20	150	3 10	36	2 55
06-07	1134	3 45	127	3 1	728	3 48	279	3 58
07-08	2079	4 17	198	4 49	1420	4 7	461	4 31
08-09	2734	4 3	286	4 44	1868	3 59	580	3 53
09-10	3074	3 49	99	4 21	2348	3 53	627	3 27
10-11	2795	3 47	122	4 11	2197	3 49	476	3 32
11-12	2307	3 50	78	3 24	1766	3 46	463	4 11
12-13	2135	3 46	107	4 30	1581	3 43	447	3 44
13-14	2076	3 45	102	4 33	1464	3 42	510	3 44
14-15	2286	3 31	131	3 55	1589	3 27	566	3 38
15-16	2403	3 30	156	4 3	1652	3 20	595	3 49
16-17	2455	3 28	443	4	1839	3 19	173	3 49
17-18	1581	3 25	325	3 50	1148	3 12	108	4 35
18-19	928	3 36	189	3 51	672	3 27	67	4 22
19-20	784	3 43	150	3 53	555	3 44	79	3 15
20-21	715	3 43	147	4 5	523	3 29	45	5 7
21-22	817	3 37	164	3 36	590	3 33	63	4 26
22-23	846	3 16	171	3 16	627	3 8	48	4 55
23-24	695	3 29	132	3 36	515	3 25	48	3 57
TOTAL	33159	3 43						

CAB LINE USAGE

LOCAL SOUTHWEST NORTHEAST

00-01	3	2	2
01-02	3	2	2
02-03	4	2	1
03-04	2	1	1
04-05	2	1	1
05-06	3	2	2
06-07	6	4	3
07-08	8	6	4
08-09	8	6	4
09-10	9	8	5
10-11	8	6	4
11-12	8	7	3
12-13	7	5	3
13-14	7	4	4
14-15	8	4	4
15-16	8	6	4
16-17	7	5	4
17-18	7	5	4
18-19	5	3	2
19-20	5	4	2
20-21	5	2	2
21-22	4	4	2
22-23	5	5	2
23-24	5	2	3

AD-A047 248

NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATL--ETC F/G 4/2  
NEW YORK CITY PILOTS AUTOMATIC TELEPHONE WEATHER ANSWERING SERV--ETC(U)  
OCT 77 F STAIANO, E SHOCHET

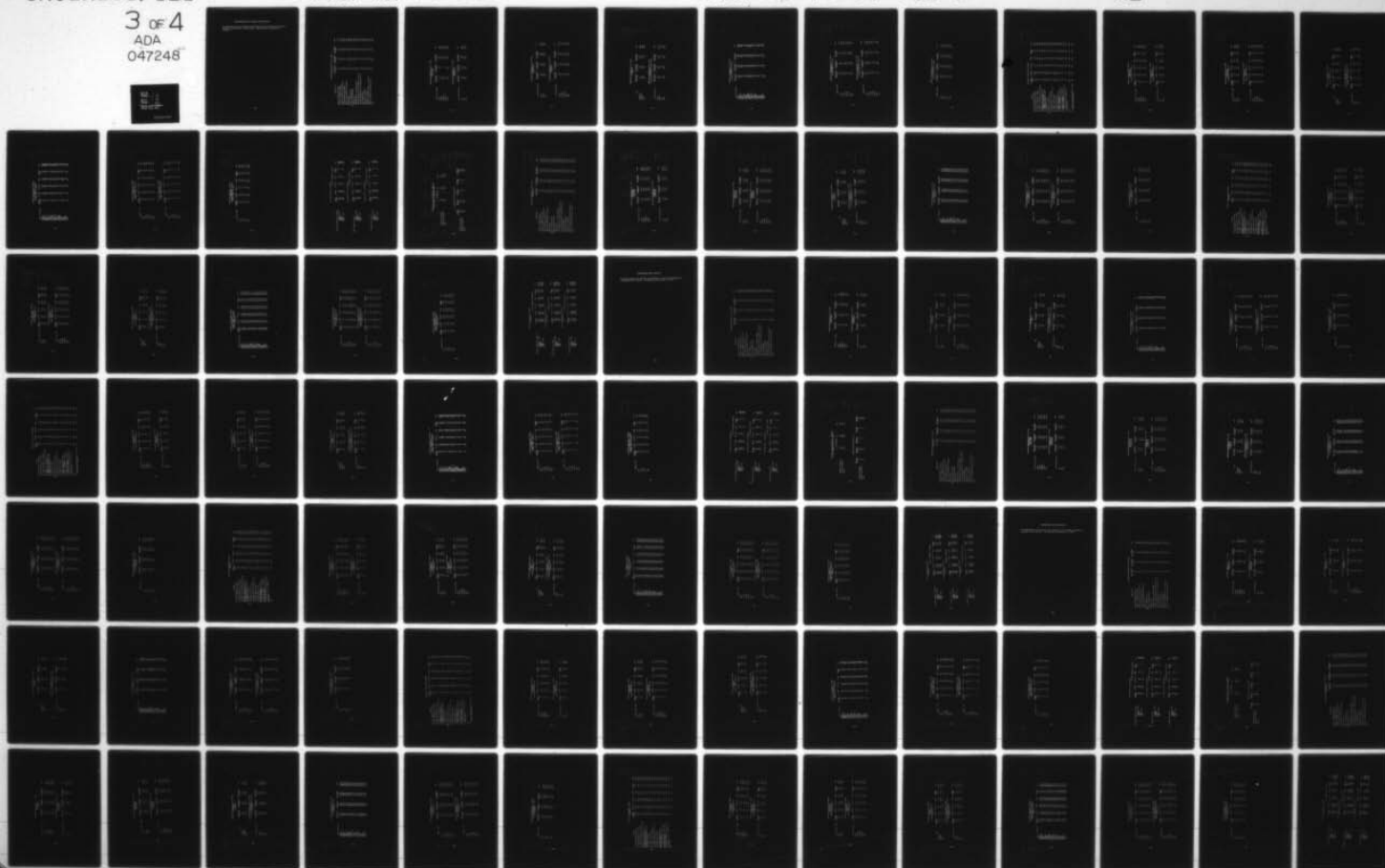
UNCLASSIFIED

FAA-NA-77-21

FAA-RD-77-80-VOL-2

NL

3 OF 4  
ADA  
047248



#### QUESTIONNAIRE DATA (INITIAL AND FOLLOW-UP)

The questionnaire data obtained from responses to the initial and follow-up mailings are contained in this section. The material is discussed in volume I.



## COMPARISON BETWEEN BASIC AND TRIAL PATHWAYS

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	287	403	1822	2812
ACCURACY OF INFORMATION PROVIDED	165	1149	1157	2471
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	202	887	1408	2497
YOUR SATISFACTION WITH BRIEFING	236	474	1762	2472
ORDER IN WHICH INFORMATION IS PRESENTED	235	947	1270	2452
MESSAGE LENGTH	312	752	1375	2439
QUALITY OF SPEAKING VOICE	218	1297	950	2465
AMOUNT OF BACKGROUND NOISE	223	1372	875	2470
SPEAKING RATE	182	1478	805	2465
CONNECTED PROMPTLY TO RECORDED MESSAGE	220	1115	1130	2465
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	197	644	1621	2462
MINIMIZES ADDITIONAL INFIGHT INFORMATION FROM FSS	159	998	1256	2413
EASE OF COMPREHENSION	197	1077	1191	2465
USEFULNESS OF INFORMATION	194	552	1716	2462
RESPONSIVE TO YOUR NEEDS	205	592	1661	2458
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	197	756	1521	2474
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	315	1168	917	2400
TOTAL	3744	15661	22437	41842

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
PILOT LICENSE

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	377	1169	1522	3068
PRIVATE	2020	2	12349	22981
COMMERCIAL	1099		7325	13349
AIRLINE	223		1203	2301
TOTAL	3719	15581	22399	41699

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
WEATHER RATING

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	1312	6378	9855	17545
VFR	2407	9203	12544	24154
TOTAL	3719	15581	22399	41699

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
ENGINE LICENSE

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	983	4401	6299	11683
SINGLE	2610	10851	15529	28990
TOTAL	3593	15252	21828	40673

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
FLYING TIME

FLYING TIME(HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	1865	7644	10663	20172
401-800	561	2555	4037	7153
801-1600	469	2233	3451	6153
1601-3200	419	1624	2035	4078
3200+	430	1605	2251	4286
TOTAL	3744	15661	22437	41842

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
GAOC

GAOC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	2141	9496	13898	25935
TETERBORO	1385	5476	7804	14665
TOTAL	3526	14972	21702	40200

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	3469	14596	21277	39342
TURBO	65	264	312	641
JET	188	680	765	1633
TOTAL	3722	15540	22354	41616

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	272	1138	1856	3266
PASSAIC	136	523	639	1318
MANHATTAN	248	966	1736	2950
BROOKLYN	110	343	831	1484
NASSAU	511	2352	3524	6387
BRONX	65	214	213	492
HUNTERDON	0	2	13	17
HUDSON	47	204	325	576
BERGEN	298	1342	2117	3757
RICHMOND	34	202	378	614
MIDDLESEX	105	465	723	1323
WINDMOUTH	205	736	1140	2081
MORRIS	248	778	1031	2057
WESTCHESTER	231	1195	1624	3050
ORANGE	89	1272	234	592
SUFFOLK	423	1846	2431	4700
SULLIVAN	1	60	60	84
ROCKLAND	34	303	384	743
SOMERSET	26	79	85	170
PUTNAM	15	98	73	166
ESSEX	142	742	943	1827
UNION	185	517	666	1348
SUSSEX	4	25	36	85
HERCEY	9	39	54	102
DUTCHESS	68	222	410	700
ULSTER	23	112	118	253
TOTAL	3526	14960	21676	40162



COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	589	2380	3201	6170
21-50	959	3916	5757	10632
51-100	1099	4446	6516	12061
101-200	508	2833	4210	7551
201-400	337	1193	1717	3247
400+	292	893	1036	2181
TOTAL	3744	15661	22437	41842

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT BASIC PATWAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	2678	10596	14399	27673
21-50	703	3025	4675	8403
51-100	186	1247	2114	3547
101-200	95	428	636	1159
201-400	48	186	373	607
400+	34	179	240	453
TOTAL	3744	15661	22437	41842

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	1488	5239	5917	12644
6-10	696	3034	4096	7826
11-20	684	3016	4783	8485
21-40	462	2357	3842	6661
40+	414	2013	3799	6226
TOTAL	3744	15661	22437	41842

REACTIONS TO TRIAL PATHAS STATEMENTS

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	947	2368	422	311	43	4091
NOT ENOUGH INFORMATION IS PROVIDED	388	1898	817	815	103	4021
THE INFORMATION PROVIDED IS ACCURATE	26	203	814	2833	164	4040
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	29	296	335	3151	228	4039
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	48	266	504	3074	180	4072
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	133	661	761	2177	358	4090
THE MESSAGE IS TOO LONG	264	2333	762	557	113	4031
THE MESSAGE IS TOO SHORT	312	2304	898	391	50	3955
THE SPEAKER IS EASY TO UNDERSTAND	91	370	337	2891	406	4095
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	112	375	348	2933	297	4065
THE SPEAKER TALKED TOO SLOWLY	343	3051	455	143	21	4013
THE SPEAKER TALKED TOO FAST	233	2350	557	587	89	4016
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	213	447	279	2579	581	4099
IT IS EASY TO COMPREHEND THE INFORMATION	37	260	332	3061	340	4030
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	63	414	805	2562	249	4093
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	23	94	310	2718	940	4085
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	27	46	202	1925	1915	4115
TOTAL	3289	17938	8938	32708	6077	68950
TOTAL (TO ALL TRIAL PATHAS STATEMENTS FOR WHICH STRONGLY AGREE = FAVORABLE)	802	3432	5027	29904	5658	44823

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE = FAVORABLE)

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	70	315	632	2749	524	4290
PRIVATE	440	1935	2746	17078	3187	25386
COMMERCIAL	241	979	1428	8492	1677	12817
AIRLINE	41	197	212	1540	264	2254
TOTAL	792	3426	5018	29859	5652	44747

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE = FAVORABLE)

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	332	1366	1820	11242	2059	16819
VFR	460	2060	3198	18617	3593	27928
TOTAL	792	3426	5018	29859	5652	44747

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE = FAVORABLE)

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	217	937	1240	7595	1374	11363
SINGLE	547	2406	3659	21570	4143	32325
TOTAL	764	3343	4899	29165	5517	43688

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE = FAVORABLE)

FLYING TIME(HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	435	1873	2861	16187	3307	24663
401-800	98	485	690	4590	853	6716
801-1600	106	474	631	3739	673	5623
1601-3200	83	305	413	2558	354	3713
3200+	80	295	432	2830	471	4108
TOTAL	802	3432	5027	29904	5658	44823



REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
GADG  
(STRONGLY AGREE = FAVORABLE)

GADG	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	375	1911	3005	18129	3520	26940
TETERBURY	379	1354	1796	10645	1945	16119
TOTAL	754	3265	4801	28774	5465	43059

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN  
(STRONGLY AGREE = FAVORABLE)

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	745	3253	4662	28081	5322	42063
TURBO	8	60	112	484	111	775
JET	33	110	220	1125	195	1683
TOTAL	786	3423	4994	29690	5628	44521

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE = FAVORABLE)

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	34	188	268	1942	465	3897
PASSAIC	25	144	139	926	169	1423
MANHATTAN	51	207	324	1947	453	2982
BROOKLYN	21	132	178	988	189	1308
NASSAU	91	473	552	4299	784	6299
BRONX	9	46	55	410	65	585
HUNTERDON	0	7	3	30	2	42
HUDSON	7	54	63	395	74	593
BERGEN	96	342	469	2857	477	4241
RICHMOND	11	50	65	455	58	639
MIDDLESEX	27	135	149	941	165	1417
MONMOUTH	53	145	271	1302	242	2013
MORRIS	62	199	241	1690	302	2494
WESTCHESTER	47	247	354	2203	424	3275
ORANGE	10	36	107	519	86	758
SUFFOLK	74	358	599	3477	619	5127
SULLIVAN	0	2	5	82	10	99
ROCKLAND	11	62	110	581	106	870
SOMERSET	4	25	19	135	33	216
PUTNAM	5	26	39	264	82	416
ESSEX	60	179	221	1242	287	1989
UNION	28	111	191	1004	172	1506
SUSSEX	3	1	7	58	7	76
MERCER	3	9	20	52	14	98
DUTCHESS	6	58	159	651	124	1000
ULSTER	3	25	84	277	52	441
TOTAL	753	3261	4792	28737	5461	43004

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	123	452	1139	4771	808	7293
21-50	156	882	1336	7994	1446	11814
51-100	253	980	1311	8590	1793	12927
101-200	156	687	683	5075	957	7558
201-400	70	242	274	1969	369	2924
400+	44	189	284	1505	285	2307
TOTAL	802	3432	5027	29904	5658	44823

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATHAS LISTENING  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	614	2612	4127	23357	4322	35032
21-50	101	507	574	3888	829	9899
51-100	42	198	196	1648	319	2403
101-200	27	53	87	530	96	793
201-400	13	38	20	277	45	393
400+	5	24	23	204	47	303
TOTAL	802	3432	5027	29904	5658	44823

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT TRIAL PATHAS LISTENING  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	273	1137	2531	9962	1645	15348
6-10	139	688	775	6006	1055	8663
11-20	195	744	797	6206	1098	9040
21-40	106	440	492	4193	909	6140
40+	89	423	432	3537	951	5432
TOTAL	802	3432	5027	29904	5658	44823

JOINT REACTIONS OF ALL RESPONDENTS

TOO MUCH INFORMATION IS PROVIDED

NOT ENOUGH INFORMATION IS PROVIDED	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STRONGLY DISAGREE	205	103	24	39	15	386
DISAGREE	318	1240	108	217	11	1894
UNCERTAIN	147	420	234	14	1	816
AGREE	192	547	47	18	2	806
STRONGLY AGREE	69	20	2	4	6	101
TOTAL	931	2330	415	292	35	4003

JOINT REACTIONS OF ALL RESPONDENTS

THE MESSAGE IS TOO LONG

NOT ENOUGH INFORMATION IS PROVIDED	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STRONGLY DISAGREE	135	42	14	63	56	310
DISAGREE	38	1677	140	407	33	2295
UNCERTAIN	30	243	577	40	2	892
AGREE	23	330	16	13	3	385
STRONGLY AGREE	36	9	1	1	3	50
TOTAL	262	2301	748	524	97	3932

JOINT REACTIONS OF ALL RESPONDENTS

THE SPEAKER TALKED TOO SLOWLY

NOT ENOUGH INFORMATION IS PROVIDED	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STRONGLY DISAGREE	183	22	3	11	10	229
DISAGREE	39	2359	41	91	5	2535
UNCERTAIN	15	147	387	5	0	554
AGREE	58	470	20	19	1	588
STRONGLY AGREE	45	31	2	2	4	84
TOTAL	340	3029	453	128	20	3970



CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PATHWAYS

	FSS CONTACTED		TOTAL
	NO	YES	
PRE-FLIGHT FSS CONTACT	1083	3013	4096
IN-FLIGHT FSS CONTACT	1371	1841	3212
TOTAL	2454	4854	7308

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	658	2179	115	61	3013
IN-FLIGHT FSS CONTACT	1125	667	19	30	1841
TOTAL	1783	2846	134	91	4854

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
-PERCENTAGES-

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	11.43	16.04	72.53	100.00
ACCURACY OF INFORMATION PROVIDED	6.68	46.50	46.82	100.00
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	8.09	35.52	56.39	100.00
YOUR SATISFACTION WITH BRIEFING	9.55	19.17	71.28	100.00
ORDER IN WHICH INFORMATION IS PRESENTED	9.58	38.62	51.79	100.00
MESSAGE LENGTH	12.79	30.83	56.38	100.00
QUALITY OF SPEAKING VOICE	8.84	52.62	38.54	100.00
AMOUNT OF BACKGROUND NOISE	9.03	55.55	35.43	100.00
SPEAKING RATE	7.38	59.96	32.66	100.00
CONNECTED PROMPTLY TO RECORDED MESSAGE	8.92	45.23	45.84	100.00
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	8.00	26.16	65.84	100.00
MINIMIZES ADDITIONAL INFIGHT INFORMATION FROM FSS	6.59	41.36	52.05	100.00
EASE OF COMPREHENSION	7.99	43.69	48.32	100.00
USEFULNESS OF INFORMATION	7.88	22.42	69.70	100.00
RESPONSIVE TO YOUR NEEDS	8.34	24.08	67.58	100.00
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	7.96	30.56	61.48	100.00
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	13.13	48.67	38.21	100.00
TOTAL	8.95	37.43	53.62	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
PILOT LICENSE  
-PERCENTAGES-

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	12.29	38.10	49.61	100.00
PRIVATE	8.79	27.47	53.74	100.00
COMMERCIAL	8.23	36.89	54.87	100.00
AIRLINE	9.69	38.03	52.28	100.00
TOTAL	8.92	37.37	53.72	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
WEATHER RATING  
-PERCENTAGES-

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	7.48	36.35	56.17	100.00
VFR	9.97	38.10	51.93	100.00
TOTAL	8.92	37.37	53.72	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
ENGINE LICENSE  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	8.41	37.67	53.92	100.00
SINGLE	9.00	37.43	53.57	100.00
TOTAL	8.83	37.50	53.67	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
FLYING TIME  
-PERCENTAGES-

FLYING TIME(HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	9.25	37.89	52.86	100.00
401-800	7.84	35.72	56.44	100.00
801-1600	7.62	36.29	56.09	100.00
1601-3200	10.27	39.82	49.90	100.00
3200+	10.03	37.45	52.52	100.00
TOTAL	8.95	37.43	53.62	100.00

# COMPARISON BETWEEN BASIC AND TRIAL PATWAS

CATEGORIZED BY

GADC

-PERCENTAGES-

GADC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	8.38	37.19	54.43	100.00
TETERBORO	9.64	37.34	53.22	100.00
TOTAL	8.77	37.24	53.99	100.00

# COMPARISON BETWEEN BASIC AND TRIAL PATWAS

CATEGORIZED BY

TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

-PERCENTAGES-

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	8.82	37.10	54.08	100.00
TURBO	10.14	41.19	48.67	100.00
JET	11.51	41.64	46.85	100.00
TOTAL	8.94	37.34	53.71	100.00



COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
-PERCENTAGES-

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	8.33	34.84	56.83	100.00
PASSAIC	10.32	41.20	48.48	100.00
MANHATTAN	8.41	32.75	58.85	100.00
BROOKLYN	-7.41	36.59	56.00	100.00
NASSAU	8.00	36.82	55.17	100.00
BRONX	13.21	41.50	45.29	100.00
HUNTERDON	0.16	11.76	88.24	100.00
HUDSON	8.16	32.42	59.42	100.00
BERGEN	7.93	35.72	56.35	100.00
RICHMOND	5.34	32.90	61.56	100.00
MIDDLESEX	7.94	35.15	56.92	100.00
MONMOUTH	9.85	35.37	54.78	100.00
MORRIS	12.06	37.82	50.12	100.00
WESTCHESTER	7.57	39.18	53.25	100.00
ORANGE	14.53	45.95	39.53	100.00
SUFFOLK	9.00	27.38	51.72	100.00
SULLIVAN	1.19	27.38	71.43	100.00
ROCKLAND	7.27	41.05	51.68	100.00
SCHERSET	15.29	46.57	38.24	100.00
PUTNAM	8.06	52.69	39.25	100.00
ESSEX	7.77	40.61	51.61	100.00
UNION	12.24	38.35	49.41	100.00
SUSSEX	4.71	29.41	65.88	100.00
MERCER	8.82	38.24	52.94	100.00
DUTCHESS	9.71	31.71	58.57	100.00
ULSTER	9.09	44.27	46.64	100.00
TOTAL	8.78	37.25	53.97	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	9.55	38.57	51.88	100.00
21-50	9.02	36.83	54.15	100.00
51-100	9.11	36.86	54.03	100.00
101-200	6.73	57.52	55.75	100.00
201-400	10.38	36.74	52.88	100.00
400+	11.55	40.94	47.50	100.00
TOTAL	8.95	37.43	53.62	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT BASIC PATWAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	9.68	38.29	52.03	100.00
21-50	8.37	36.00	55.63	100.00
51-100	5.24	35.16	59.60	100.00
101-200	8.20	36.93	54.87	100.00
201-400	7.91	30.64	61.45	100.00
400+	7.51	39.51	52.98	100.00
TOTAL	8.95	37.43	53.62	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	11.77	41.43	46.80	100.00
6-10	8.89	38.77	52.34	100.00
11-20	8.06	35.57	56.37	100.00
21-40	6.94	35.39	57.68	100.00
40+	6.65	32.33	61.02	100.00
TOTAL	8.95	37.43	53.62	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
-PERCENTAGES-

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	23.15	57.88	10.32	7.60	1.05	100.00
NOT ENOUGH INFORMATION IS PROVIDED	9.65	47.20	20.32	20.27	2.56	100.00
THE INFORMATION PROVIDED IS ACCURATE	0.64	5.02	20.15	70.12	4.06	100.00
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	0.72	7.33	8.29	78.01	5.64	100.00
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	1.18	6.53	12.38	75.49	4.42	100.00
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	3.25	16.16	18.61	53.23	8.75	100.00
THE MESSAGE IS TOO LONG	6.55	57.93	18.90	13.82	2.80	100.00
THE MESSAGE IS TOO SHORT	7.89	58.26	22.71	9.89	1.26	100.00
THE SPEAKER IS EASY TO UNDERSTAND	2.22	9.04	8.23	70.60	9.91	100.00
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	2.76	9.23	8.56	72.15	7.31	100.00
THE SPEAKER TALKED TOO SLOWLY	8.55	76.03	11.34	3.56	0.52	100.00
THE SPEAKER TALKED TOO FAST	5.80	63.50	13.87	14.62	2.22	100.00
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	5.20	10.91	6.81	62.92	14.17	100.00
IT IS EASY TO COMPREHEND THE INFORMATION	0.92	6.45	8.24	75.96	8.44	100.00
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	1.54	10.11	19.67	62.59	6.08	100.00
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	0.56	2.30	7.59	66.54	23.01	100.00
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	0.66	1.12	4.91	46.78	46.54	100.00
TOTAL	4.77	26.02	12.96	47.44	8.81	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	1.63	7.34	14.73	64.08	12.21	100.00
PRIVATE	1.73	7.62	10.82	67.27	12.55	100.00
COMMERCIAL	1.88	7.64	11.14	66.26	13.08	100.00
AIRLINE	1.82	8.74	9.41	68.32	11.71	100.00
TOTAL	1.77	7.66	11.21	66.73	12.63	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	1.97	8.12	10.82	66.84	12.24	100.00
VFR	1.65	7.38	11.45	66.66	12.87	100.00
TOTAL	1.77	7.66	11.21	66.73	12.63	100.00



REACTIONS TO TRIAL PAYMAS STATEMENTS

CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	1.91	8.25	10.91	66.84	12.09	100.00
SINGLE	1.69	7.44	11.32	66.73	12.82	100.00
TOTAL	1.75	7.65	11.21	66.76	12.63	100.00

REACTIONS TO TRIAL PAYMAS STATEMENTS

CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	1.76	7.59	11.60	65.63	13.41	100.00
401-800	1.46	7.22	10.27	68.34	12.70	100.00
801-1600	1.89	8.43	11.22	66.49	11.97	100.00
1601-3200	2.24	8.21	11.12	68.89	9.53	100.00
3200+	1.95	7.18	10.52	68.89	11.47	100.00
TOTAL	1.79	7.66	11.22	66.72	12.62	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
GADC  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

GADC	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	1.39	7.09	11.15	67.29	13.07	100.00
TETERBORO	2.35	8.40	11.14	66.04	12.07	100.00
TOTAL	1.75	7.58	11.15	66.82	12.69	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	1.77	7.73	11.08	66.76	12.65	100.00
TURBO	1.03	7.74	14.45	62.45	14.32	100.00
JET	1.96	6.54	13.07	66.84	11.59	100.00
TOTAL	1.77	7.69	11.22	66.69	12.64	100.00

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	1.17	6.49	9.25	67.03	16.05	100.00
PASSAIC	2.46	10.12	9.77	65.78	11.88	100.00
MANHATTAN	1.71	6.94	10.87	65.29	15.19	100.00
BROOKLYN	1.39	8.75	11.80	65.52	12.53	100.00
NASSAU	1.44	7.51	10.35	68.25	12.45	100.00
BROOKLYN	1.54	7.86	9.40	70.09	11.11	100.00
HUNTERDON	0.17	16.67	7.14	71.43	4.76	100.00
HUDSON	1.18	8.11	10.62	66.61	12.48	100.00
BERGEN	2.26	9.06	11.06	67.37	11.25	100.00
RICHMOND	1.72	7.82	10.17	71.21	9.08	100.00
MIDDLESEX	1.91	9.53	10.52	65.41	11.64	100.00
MONMOUTH	2.63	7.20	13.46	64.58	12.02	100.00
MORRIS	2.49	7.98	9.66	67.76	12.11	100.00
WESTCHESTER	1.44	7.54	10.81	67.27	12.95	100.00
ORANGE	1.32	4.75	14.12	68.47	11.35	100.00
SUFFOLK	1.44	6.98	11.68	67.82	12.07	100.00
SULLIVAN	0.16	2.02	5.05	82.83	10.10	100.00
ROCKLAND	1.26	11.57	12.64	66.78	12.18	100.00
SCHENECTADY	1.85	11.57	8.80	62.20	15.28	100.00
PUTNAM	1.20	6.25	9.38	63.46	19.71	100.00
ESSSEX	3.02	9.00	11.11	62.44	14.43	100.00
UNION	1.86	7.37	12.68	66.07	11.42	100.00
SUSSEX	3.95	1.32	8.21	76.32	9.21	100.00
MERCER	3.06	9.18	20.41	53.06	14.29	100.00
DUTCHESS	0.80	5.80	15.90	65.10	12.40	100.00
ULSTER	0.68	5.67	19.05	62.81	11.79	100.00
TOTAL	1.75	7.58	11.14	66.82	12.70	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1.69	6.20	15.62	65.42	11.08	100.00
21-50	1.32	7.47	11.31	67.67	12.24	100.00
51-100	1.96	7.58	10.14	66.45	13.87	100.00
101-200	2.06	9.09	9.04	67.15	12.66	100.00
201-400	2.39	8.28	9.37	67.34	12.62	100.00
400+	1.91	8.19	12.31	65.24	12.35	100.00
TOTAL	1.79	7.66	11.22	66.72	12.62	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1.75	7.46	11.78	66.07	12.34	100.00
21-50	1.71	8.59	9.73	65.91	14.05	100.00
51-100	1.75	8.24	8.16	68.58	13.28	100.00
101-200	3.40	6.68	10.97	66.83	12.11	100.00
201-400	3.31	9.67	5.09	70.48	11.45	100.00
400+	1.65	7.92	7.59	67.33	15.51	100.00
TOTAL	1.79	7.66	11.22	66.72	12.62	100.00

REACTIONS TO TRIAL PATHAS STATEMENTS  
 CATEGORIZED BY  
 DIFFERENT TRIAL PATHAS LISTENING  
 (STRONGLY AGREE = FAVORABLE)  
 -PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	1.76	7.31	16.28	64.07	10.58	100.00
6-10	1.60	7.94	8.95	69.33	12.18	100.00
11-20	2.16	8.23	8.82	68.65	12.15	100.00
21-40	1.73	7.17	8.01	68.29	14.80	100.00
40+	1.64	7.79	7.95	65.11	17.51	100.00
TOTAL	1.79	7.66	11.22	66.72	12.62	100.00



JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

TOO MUCH INFORMATION IS PROVIDED

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
53.11	26.68	6.22	10.10	3.89	100.00
16.79	65.47	5.70	11.46	0.58	100.00
18.01	51.47	28.68	1.72	0.12	100.00
23.82	67.87	5.83	2.23	0.25	100.00
68.32	19.80	1.98	3.96	5.94	100.00
23.26	58.21	10.37	7.29	0.87	100.00

NOT ENOUGH INFORMATION IS PROVIDED

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE MESSAGE IS TOO LONG

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
43.55	13.55	4.52	20.32	18.06	100.00
1.66	73.07	6.10	17.73	1.44	100.00
3.36	27.24	64.69	4.48	0.22	100.00
5.97	85.71	4.16	3.38	0.78	100.00
72.00	18.00	2.00	2.00	6.00	100.00
6.66	58.52	19.02	13.33	2.47	100.00

THE MESSAGE IS TOO SHORT

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE SPEAKER TALKED TOO SLOWLY

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
79.91	9.61	1.31	4.80	4.37	100.00
1.54	93.06	1.62	3.59	0.20	100.00
12.71	26.53	69.86	0.90	0.18	100.00
10.21	82.75	3.52	3.35	0.18	100.00
53.57	26.90	2.38	2.38	4.76	100.00
8.56	76.30	11.41	3.22	0.50	100.00

THE SPEAKER TALKED TOO FAST

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

#### QUESTIONNAIRE DATA (INITIAL)

The questionnaire data obtained from responses to the initial mailing are contained in this section. The material is discussed in volume I.

## COMPARISON BETWEEN BASIC AND TRIAL PATHWAYS

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	137	181	1192	1910
ACCURACY OF INFORMATION PROVIDED	81	679	723	1483
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	99	474	926	1499
YOUR SATISFACTION WITH BRIEFING	114	217	1162	1493
ORDER IN WHICH INFORMATION IS PRESENTED	120	573	781	1474
MESSAGE LENGTH	175	399	893	1467
QUALITY OF SPEAKING VOICE	124	787	572	1483
AMOUNT OF BACKGROUND NOISE	133	822	533	1488
SPEAKING RATE	96	903	483	1482
CONNECTED PROMPTLY TO RECORDED MESSAGE	126	660	697	1483
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	92	330	1067	1489
MINIMIZES ADDITIONAL INFLIGHT INFORMATION FROM FSS	78	571	806	1455
EASE OF COMPREHENSION	111	629	748	1488
USEFULNESS OF INFORMATION	100	271	1114	1485
RESPONSIVE TO YOUR NEEDS	105	290	1089	1484
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	107	390	992	1489
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	192	689	570	1451
TOTAL	1990	8865	14348	25203

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
PILOT LICENSE

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	193	545	678	1416
PRIVATE	1105	4943	7921	13969
COMMERCIAL	554	2779	4952	8285
AIRLINE	127	546	768	1441
TOTAL	1979	8813	14319	25111

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
WEATHER RATING

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	743	3767	6861	11371
VFR	1236	5046	7458	13740
TOTAL	1979	8813	14319	25111

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
ENGINE LICENSE

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	511	2496	4304	7311
SINGLE	1381	6099	9716	17196
TOTAL	1892	8595	14020	24507

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
FLYING TIME

FLYING TIME(HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	968	4160	6401	11529
401-800	374	1646	2840	4860
801-1600	239	1383	2408	4030
1601-3200	226	895	1308	2429
3200+	183	781	1391	2355
TOTAL	1990	8865	14348	25203



COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
GADC

GADC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	1125	5364	8777	15266
TETERBORO	743	3134	5165	9042
TOTAL	1868	8498	13942	24308

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	1856	8263	13676	23795
TURBO	37	138	191	366
JET	89	412	434	935
TOTAL	1982	8813	14301	25096

COMPARISON BETWEEN BASIC AND TRIAL PATHWAYS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	131	664	1179	1974
ALBANY	185	308	448	841
MANHATTAN	178	673	1254	2105
BROOKLYN	36	334	561	931
MASSACHUSETTS	246	1225	2191	3662
BROOK	28	102	142	272
HUNTERDON	0	0	0	0
HUDSON	21	126	226	373
BERGEN	179	776	1471	2426
RICHMOND	30	137	235	402
MIDDLESEX	45	222	426	693
MUMFORD	99	407	761	1267
MORRIS	138	462	642	1242
WESTCHESTER	106	717	1039	1862
ORANGE	56	134	176	266
SUFFOLK	232	951	1445	2628
SULLIVAN	1	14	35	50
ROCKLAND	27	200	229	456
SCHENECTADY	14	14	40	68
PUTNAM	2	34	32	68
ESSEX	67	450	624	1141
UNION	95	340	471	906
SUSSEX	0	22	46	68
MERCER	0	7	10	17
DUTCHESS	52	154	299	505
ULSTER	0	25	60	85
TOTAL	1868	8498	13942	24308

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	290	1253	1848	3391
21-50	593	2228	3417	6238
51-100	586	2540	4227	7353
101-200	215	1707	2983	4905
201-400	163	689	1240	2092
400+	143	448	633	1224
TOTAL	1990	8865	14348	25203

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	1366	5786	8694	15846
21-50	419	1825	3215	5459
51-100	81	792	1587	2460
101-200	76	260	456	792
201-400	32	85	223	340
400+	16	117	173	306
TOTAL	1990	8865	14348	25203

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	742	2662	3410	6814
6-10	341	1682	2467	4490
11-20	372	1808	3108	5288
21-40	271	1453	2702	4426
40+	264	1260	2661	4185
TOTAL	1990	8865	14348	25203

REACTIONS TO TRIAL PATNAS STATEMENTS

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TWO MUCH INFORMATION IS PROVIDED	625	1316	170	173	23	2307
NOT ENOUGH INFORMATION IS PROVIDED	222	1094	413	489	59	2276
THE INFORMATION PROVIDED IS ACCURATE	17	112	446	1608	93	2276
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	15	178	161	1788	136	2278
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	30	158	259	1751	109	2307
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	89	356	395	1250	213	2303
THE MESSAGE IS TOO LONG	169	1370	353	316	74	2282
THE MESSAGE IS TOO SHORT	185	1342	436	240	33	2236
THE SPEAKER IS EASY TO UNDERSTAND	51	210	167	1634	245	2307
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	72	236	155	1653	182	2298
THE SPEAKER TALKED TOO SLOWLY	210	1756	204	87	15	2272
THE SPEAKER TALKED TOO FAST	145	1491	264	317	53	2270
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	127	264	117	1444	363	2315
IT IS EASY TO COMPREHEND THE INFORMATION	22	157	137	1735	222	2273
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	37	232	405	1476	155	2305
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	16	56	157	1541	530	2300
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	15	23	85	1055	1136	2314
TOTAL	2047	10351	4324	18556	3641	38919
TOTAL (TO ALL TRIAL PATNAS STATEMENTS FOR WHICH STRONGLY AGREE = FAVORABLE )	491	1982	2484	16935	3384	25276



REACTIONS TO TRIAL PATHAS STATEMENTS

CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE = FAVORABLE)

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	35	133	205	1242	253	1868
PRIVATE	273	1123	1410	9758	1874	14438
COMMERCIAL	152	599	756	5014	1095	7616
AIRLINE	21	123	110	899	158	1311
TOTAL	481	1978	2481	16913	3380	29233

REACTIONS TO TRIAL PATHAS STATEMENTS

CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE = FAVORABLE)

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	213	861	1018	6942	1346	10380
VFR	268	1117	1463	9971	2034	14853
TOTAL	481	1978	2481	16913	3380	29233

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE • FAVORABLE)

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	126	564	648	4616	878	6832
SINGLE	337	1364	1790	11972	2438	17901
TOTAL	463	1928	2438	16588	3316	24733

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE • FAVORABLE)

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	257	1022	1345	8696	1859	13179
401-800	65	319	405	2898	597	4284
801-1600	65	300	345	2386	433	3529
1601-3200	56	190	212	1470	225	2153
3200+	48	151	177	1485	270	2131
TOTAL	491	1982	2484	16935	3384	25276

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
GADC  
(STRONGLY AGREE = FAVORABLE)

GADC	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	229	1118	1476	10100	2077	15000
TETERBORO	232	776	913	6210	1202	9333
TOTAL	461	1894	2389	16310	3279	24333

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN  
(STRONGLY AGREE = FAVORABLE)

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	456	1884	2351	15980	3191	23862
TURBO	3	32	31	260	56	382
JET	19	61	84	588	128	880
TOTAL	478	1977	2466	16828	3375	25124

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE = FAVORABLE)

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	22	129	154	1045	251	1601
PASSAIC	23	86	71	590	111	881
MANHATTAN	33	145	200	1266	305	1949
BROOKLYN	17	81	92	571	129	890
NASSAU	58	269	291	2346	459	3423
BRONX	6	27	27	217	38	315
HUNTERDON	0	2	2	16	0	20
HUDSON	3	37	41	258	47	386
BERGEN	56	202	255	1701	327	2541
RICHMOND	2	29	46	288	34	399
MIDDLESEX	13	57	82	474	84	710
MONMOUTH	32	81	121	738	163	1135
MORRIS	46	126	129	924	174	1409
WESTCHESTER	30	149	180	1258	261	1878
ORANGE	4	19	59	264	35	391
SUPPLK.	39	168	262	1813	325	2807
SULLIVAN	0	2	4	50	10	66
ROCKLAND	8	34	41	297	57	437
SOMERSET	3	11	15	57	22	108
PUTNAM	2	12	20	124	40	198
ESSSEX	32	98	92	755	167	1144
UNION	20	72	93	638	101	924
SUSSEX	3	1	5	40	5	54
MERCER	1	3	7	9	1	21
DUTCHESS	7	43	79	426	93	648
ULSTER	1	11	16	119	29	176
TOTAL	461	1894	2384	16294	3278	24311

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	75	233	457	2390	419	3374
21-50	94	497	638	4411	854	6494
51-100	165	568	720	4945	1062	7460
101-200	85	428	395	3166	646	4720
201-400	50	154	156	1185	245	1788
400+	22	102	118	840	158	1240
TOTAL	491	1982	2484	16935	3384	25276

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATNAS LISTENING  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	372	1460	1900	12682	2499	18913
21-50	65	323	366	2484	520	3758
51-100	23	140	140	1128	227	1658
101-200	20	38	61	337	75	531
201-400	9	9	6	167	28	219
400+	2	12	11	137	35	197
TOTAL	491	1982	2484	16935	3384	25276



REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT TRIAL PATHAS LISTENING  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	150	557	939	5063	901	7610
6-10	89	384	455	3292	596	4816
11-20	125	469	455	3597	639	5285
21-40	65	285	349	2742	587	4028
40+	62	287	286	2241	661	3537
TOTAL	491	1982	2484	16935	3384	29276

JOINT REACTIONS OF ALL RESPONDENTS

TOO MUCH INFORMATION IS PROVIDED

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
120	57	15	19	10	221
215	695	50	125	8	1093
108	223	73	9	0	413
133	318	26	6	1	484
44	8	1	2	3	58
620	1301	165	161	22	2269

NOT ENOUGH INFORMATION IS PROVIDED

STRONGLY DISAGREE
DISAGREE
UNCERTAIN
AGREE
STRONGLY AGREE
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS

THE MESSAGE IS TOO LONG

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
83	27	9	29	37	185
26	970	81	238	23	1338
19	146	240	22	1	436
15	206	9	4	3	237
25	5	1	0	2	33
108	1354	348	293	66	2229

THE MESSAGE IS TOO SHORT

STRONGLY DISAGREE
DISAGREE
UNCERTAIN
AGREE
STRONGLY AGREE
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS

THE SPEAKER TALKED TOO SLOWLY

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
114	10	2	10	7	143
25	1376	19	59	4	1483
13	77	171	2	0	263
28	262	10	7	1	308
27	15	2	1	2	51
207	1744	204	79	14	2248

THE SPEAKER TALKED TOO FAST

STRONGLY DISAGREE
DISAGREE
UNCERTAIN
AGREE
STRONGLY AGREE
TOTAL

CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PATNAS

	NO	FSS CONTACTED	YES	TOTAL
PRE-FLIGHT FSS CONTACT	548	1700		2248
IN-FLIGHT FSS CONTACT	845	1038		1883
TOTAL	1393	2738		4131

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	382	1223	62	33	1700
IN-FLIGHT FSS CONTACT	642	369	10	17	1038
TOTAL	1024	1592	72	50	2738

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
-PERCENTAGES-

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	9.07	11.99	78.94	100.00
ACCURACY OF INFORMATION PROVIDED	5.46	45.79	48.75	100.00
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	6.60	31.62	61.77	100.00
YOUR SATISFACTION WITH BRIEFING	7.64	14.53	77.83	100.00
ORDER IN WHICH INFORMATION IS PRESENTED	8.14	38.87	52.99	100.00
MESSAGE LENGTH	11.93	27.20	60.87	100.00
QUALITY OF SPEAKING VOICE	8.36	53.07	38.57	100.00
AMOUNT OF BACKGROUND NOISE	8.94	55.24	35.82	100.00
SPEAKING RATE	6.48	60.93	32.59	100.00
CONNECTED PROMPTLY TO RECORDED MESSAGE	8.50	44.50	47.00	100.00
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	6.18	22.16	71.66	100.00
MINIMIZES ADDITIONAL INFILIGHT INFORMATION FROM FSS	5.36	39.24	55.40	100.00
EASE OF COMPREHENSION	7.46	42.27	50.27	100.00
USEFULNESS OF INFORMATION	6.73	18.25	75.02	100.00
RESPONSIVE TO YOUR NEEDS	7.08	19.54	73.38	100.00
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	7.19	26.19	66.62	100.00
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	13.23	47.48	39.28	100.00
TOTAL	7.90	35.17	56.93	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY  
PILOT LICENSE  
-PERCENTAGES-

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	13.63	38.49	47.88	100.00
PRIVATE	7.91	35.39	56.70	100.00
COMMERCIAL	6.69	33.54	59.77	100.00
AIRLINE	8.81	37.89	53.30	100.00
TOTAL	7.88	35.10	57.02	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY  
WEATHER RATING  
-PERCENTAGES-

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	6.53	33.13	60.34	100.00
VFR	9.00	36.72	54.28	100.00
TOTAL	7.88	35.10	57.02	100.00



COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY  
ENGINE LICENSE  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	6.99	34.14	58.87	100.00
SINGLE	8.03	35.47	56.50	100.00
TOTAL	7.72	35.07	57.21	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY  
FLYING TIME  
-PERCENTAGES-

FLYING TIME(HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	8.40	36.08	55.52	100.00
401-800	7.70	33.87	58.44	100.00
801-1600	5.93	34.32	59.75	100.00
1601-3200	9.30	36.85	53.85	100.00
3200+	7.77	33.16	59.07	100.00
TOTAL	7.90	35.17	56.93	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS

CATEGORIZED BY  
GADO  
-PERCENTAGES-

GADO	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	7.37	35.14	57.49	100.00
TETSBORO	8.22	34.66	57.12	100.00
TOTAL	7.68	34.90	57.36	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN  
-PERCENTAGES-

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	7.80	34.73	57.47	100.00
TURBO	10.11	37.70	52.19	100.00
JET	9.52	44.06	46.42	100.00
TOTAL	7.90	35.12	56.99	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATNAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
-PERCENTAGES-

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	6.64	33.64	59.73	100.00
PASSAIC	10.11	36.62	53.27	100.00
MANHATTAN	8.46	31.97	59.57	100.00
BROOKLYN	3.87	32.88	60.25	100.00
NASSAU	6.72	33.45	59.83	100.00
BRONX	10.29	37.50	52.21	100.00
HUNTERDON	0.63	0.	0.	0.
HUDSON	5.63	33.78	60.59	100.00
BERGEN	7.38	31.99	60.63	100.00
RICHMOND	7.46	36.08	58.46	100.00
MIDDLESEX	6.49	32.03	61.47	100.00
MONMOUTH	7.81	32.12	60.06	100.00
MORRIS	11.11	37.20	51.69	100.00
WESTCHESTER	5.69	38.51	55.80	100.00
ORANGE	21.05	50.38	28.57	100.00
SUFFOLK	8.83	36.19	54.98	100.00
SULLIVAN	2.00	28.00	70.00	100.00
ROCKLAND	5.92	43.86	50.22	100.00
SOMERSET	20.59	20.59	58.82	100.00
PUTNAM	2.94	50.00	47.06	100.00
ESSEX	5.87	39.44	54.69	100.00
UNION	10.49	37.53	51.99	100.00
SUSSEX	0.	32.35	67.65	100.00
MERCER	0.	41.18	58.82	100.00
DUTCHESS	10.30	30.50	59.21	100.00
ULSTER	0.	29.41	70.59	100.00
TOTAL	7.68	34.96	57.36	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	11.55	36.95	54.50	100.00
21-50	11.51	35.72	54.78	100.00
51-100	11.97	34.54	57.49	100.00
101-200	11.38	34.80	60.82	100.00
201-400	11.79	32.93	59.27	100.00
400+	11.68	36.60	51.72	100.00
TOTAL	11.90	35.17	56.93	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT BASIC PATWAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	8.62	36.51	54.87	100.00
21-50	7.68	33.43	58.89	100.00
51-100	3.29	32.20	64.51	100.00
101-200	9.60	32.83	57.58	100.00
201-400	9.41	25.00	65.59	100.00
400+	5.23	38.24	56.54	100.00
TOTAL	7.90	35.17	56.93	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATHS  
CATEGORIZED BY  
DIFFERENT TRIAL PATHS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	10.89	39.07	50.04	100.00
6-10	7.59	37.46	54.94	100.00
11-20	7.03	34.19	58.77	100.00
21-40	6.12	32.83	61.05	100.00
40+	6.31	30.11	63.58	100.00
TOTAL	7.90	35.17	56.93	100.00



REACTIONS TO TRIAL PATMAS STATEMENTS  
-PERCENTAGES-

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	27.09	57.04	7.37	7.50	1.00	100.00
NOT ENOUGH INFORMATION IS PROVIDED	9.75	48.07	18.15	21.44	2.59	100.00
THE INFORMATION PROVIDED IS ACCURATE	0.75	4.92	19.60	70.65	4.09	100.00
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	0.66	7.81	7.07	78.49	5.97	100.00
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	1.30	6.85	11.23	75.90	4.72	100.00
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	3.86	15.46	17.15	54.28	9.25	100.00
THE MESSAGE IS TOO LONG	7.41	60.04	15.47	13.85	3.24	100.00
THE MESSAGE IS TOO SHORT	8.27	60.02	19.50	10.73	1.48	100.00
THE SPEAKER IS EASY TO UNDERSTAND	2.21	9.10	7.24	70.83	10.62	100.00
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	3.13	10.27	6.74	71.93	7.92	100.00
THE SPEAKER TALKED TOO SLOWLY	9.24	77.29	8.98	3.83	0.66	100.00
THE SPEAKER TALKED TOO FAST	6.39	65.68	11.63	13.96	2.33	100.00
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	5.49	11.40	5.05	62.38	15.68	100.00
IT IS EASY TO COMPREHEND THE INFORMATION	0.97	6.91	6.03	76.33	9.77	100.00
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	1.61	10.07	17.57	64.03	6.72	100.00
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	0.70	2.43	6.83	67.00	23.04	100.00
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	0.65	0.99	3.67	45.59	49.09	100.00
TOTAL	5.26	26.60	11.11	47.68	9.36	100.00

REACTIONS TO TRIAL PAYNAS STATEMENTS

CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	1.87	7.12	10.97	66.49	13.54	100.00
PRIVATE	1.89	7.78	9.77	67.59	12.98	100.00
COMMERCIAL	2.00	7.87	9.93	65.84	14.38	100.00
AIRLINE	1.60	9.38	8.39	68.57	12.05	100.00
TOTAL	1.91	7.84	9.83	67.03	13.40	100.00

REACTIONS TO TRIAL PAYNAS STATEMENTS

CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	2.05	8.29	9.81	66.88	12.97	100.00
VFR	1.80	7.52	9.85	67.13	13.69	100.00
TOTAL	1.91	7.84	9.83	67.03	13.40	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	1.84	8.26	9.48	67.56	12.85	100.00
SINGLE	1.88	7.62	10.00	66.88	13.62	100.00
TOTAL	1.87	7.80	9.86	67.07	13.41	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	1.95	7.75	10.21	65.98	14.11	100.00
401-800	1.52	7.45	9.45	67.65	13.94	100.00
801-1600	1.84	8.50	9.78	67.61	12.27	100.00
1601-3200	2.60	9.82	9.85	68.28	10.45	100.00
3200+	2.28	7.09	8.31	69.69	12.67	100.00
TOTAL	1.94	7.84	9.83	67.00	13.39	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
GADC  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

GADC	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	1.53	7.45	9.84	67.33	13.85	100.00
PETERBORD	2.49	8.31	9.78	66.54	12.88	100.00
TOTAL	1.89	7.78	9.82	67.03	13.48	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT POST FREQUENTLY FLOWN  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	1.91	7.90	9.85	66.97	13.37	100.00
TURBO	0.79	8.38	8.12	68.06	14.66	100.00
JET	2.16	6.93	9.55	66.82	14.55	100.00
TOTAL	1.90	7.87	9.82	66.98	13.43	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE - FAVORABLE)  
-PERCENTAGES-

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	1.37	8.06	9.62	65.27	15.68	100.00
PASSAIC	2.61	9.76	8.06	66.97	12.60	100.00
MANHATTAN	1.69	7.44	10.26	64.96	15.65	100.00
BROOKLYN	1.91	9.10	10.34	64.16	14.49	100.00
NASSAU	1.69	7.86	8.50	68.54	13.41	100.00
BROOKLYN	1.90	8.57	8.57	68.89	12.06	100.00
HUNTERDON	0.	10.00	10.00	80.00	0.	100.00
HUDSON	0.78	9.59	10.62	66.84	12.18	100.00
BERGEN	2.20	7.95	10.04	66.94	12.87	100.00
RICHMOND	0.50	7.27	11.53	72.18	8.52	100.00
MIDDLESEX	1.83	8.03	11.55	68.76	11.83	100.00
MONMOUTH	2.82	7.14	10.66	63.02	14.36	100.00
MORRIS	3.26	8.94	9.16	66.29	12.35	100.00
WESTCHESTER	1.60	7.93	9.58	66.99	13.90	100.00
ORANGE	1.02	4.86	13.09	67.52	11.51	100.00
SUFFOLK	1.50	6.44	10.05	69.54	12.47	100.00
SULLIVAN	1.	3.03	6.06	75.76	15.15	100.00
ROCKLAND	1.83	7.78	9.38	67.96	13.04	100.00
SOMERSET	2.78	10.19	13.89	52.78	20.37	100.00
PUTNAM	1.01	6.06	10.10	62.63	20.20	100.00
ESSEX	2.80	8.57	8.04	66.00	14.60	100.00
UNION	2.16	7.79	10.06	69.05	15.93	100.00
SUSSEX	3.56	1.85	9.26	74.07	8.26	100.00
MERCER	4.76	14.29	33.33	42.86	4.76	100.00
DUTCHESS	1.08	6.64	12.19	65.74	14.35	100.00
ULSTER	0.57	6.25	9.09	67.61	16.48	100.00
TOTAL	1.90	7.79	9.81	67.02	13.48	100.00



REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	2.10	6.52	12.79	56.87	11.72	100.00
21-50	1.45	7.65	9.82	67.92	13.15	100.00
51-100	2.21	7.61	9.65	66.29	14.24	100.00
101-200	1.80	9.07	8.37	67.08	13.69	100.00
201-400	2.80	8.61	8.72	66.16	13.70	100.00
400+	1.77	8.23	9.52	67.74	12.74	100.00
TOTAL	1.94	7.84	9.83	67.00	13.39	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1.97	7.72	10.05	47.05	13.21	100.00
21-50	1.73	8.59	9.74	66.10	13.84	100.00
51-100	1.39	8.44	8.44	68.03	13.69	100.00
101-200	3.77	7.16	11.49	63.47	14.12	100.00
201-400	4.11	4.11	2.74	76.26	12.79	100.00
400+	1.02	6.09	5.58	69.54	17.77	100.00
TOTAL	1.94	7.84	9.83	67.00	13.39	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
 CATEGORIZED BY  
 DIFFERENT TRIAL PATMAS LISTENING  
 (STRONGLY AGREE - FAVORABLE)  
 - PERCENTAGES -

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	1.97	7.32	12.34	66.53	11.84	100.00
6-10	1.85	7.97	9.45	68.36	12.38	100.00
11-20	2.37	8.87	8.61	68.06	12.09	100.00
21-40	1.61	7.08	8.66	68.07	14.57	100.00
50+	1.75	8.11	8.09	63.36	18.69	100.00
TOTAL	1.94	7.84	9.83	67.00	13.39	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

TOO MUCH INFORMATION IS PROVIDED

	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STRONGLY DISAGREE	54.30	23.79	6.79	8.60	4.32	100.00
DISAGREE	19.67	63.59	4.57	11.44	0.73	100.00
UNCERTAIN	26.15	54.00	17.68	2.18	0.21	100.00
AGREE	27.48	65.70	5.37	1.24	8.17	100.00
STRONGLY AGREE	75.86	13.79	1.72	3.45	0.97	100.00
TOTAL	27.32	57.34	7.27	7.10	0.97	100.00

NOT ENOUGH INFORMATION IS PROVIDED

STRONGLY DISAGREE
DISAGREE
UNCERTAIN
AGREE
STRONGLY AGREE
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE MESSAGE IS TOO LONG

	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STRONGLY DISAGREE	44.86	14.59	4.86	15.68	20.00	100.00
DISAGREE	1.94	72.50	6.02	17.79	1.72	100.00
UNCERTAIN	4.36	33.49	56.88	5.05	0.23	100.00
AGREE	6.33	86.92	3.80	1.69	1.27	100.00
STRONGLY AGREE	75.76	15.15	3.03	0.14	6.06	100.00
TOTAL	7.54	60.74	15.61	13.14	2.96	100.00

9-32

THE MESSAGE IS TOO SHORT

STRONGLY DISAGREE
DISAGREE
UNCERTAIN
AGREE
STRONGLY AGREE
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE SPEAKER TALKED TOO SLOWLY

	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STRONGLY DISAGREE	79.72	6.99	1.40	6.99	4.90	100.00
DISAGREE	1.69	92.78	1.28	3.98	0.27	100.00
UNCERTAIN	4.94	29.28	63.02	0.76	0.00	100.00
AGREE	9.09	85.06	3.23	2.27	0.32	100.00
STRONGLY AGREE	52.94	37.25	3.92	1.96	3.92	100.00
TOTAL	9.21	77.58	9.07	3.51	0.62	100.00

THE SPEAKER TALKED TOO FAST

STRONGLY DISAGREE
DISAGREE
UNCERTAIN
AGREE
STRONGLY AGREE
TOTAL

#### QUESTIONNAIRE DATA (FOLLOW-UP)

The questionnaire data obtained from responses to the follow-up mailing are contained in this section. The material is discussed in volume I.

## COMPARISON BETWEEN BASIC AND TRIAL PATHWAYS

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	150	222	630	1002
ACCURACY OF INFORMATION PROVIDED	84	470	434	988
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	103	413	482	998
YOUR SATISFACTION WITH BRIEFING	122	257	600	979
ORDER IN WHICH INFORMATION IS PRESENTED	115	374	489	978
MESSAGE LENGTH	137	353	482	972
QUALITY OF SPEAKING VOICE	94	510	378	982
AMOUNT OF BACKGROUND NOISE	90	550	342	982
SPEAKING RATE	86	575	322	983
CONNECTED PROMPTLY TO RECORDED MESSAGE	94	455	433	982
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	105	314	554	973
MINIMIZES ADDITIONAL ENFLIGHT INFORMATION FROM FSS	81	427	450	958
EASE OF COMPREHENSION	86	448	443	977
USEFULNESS OF INFORMATION	94	281	602	977
RESPONSIVE TO YOUR NEEDS	100	302	572	974
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	90	366	529	985
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	123	479	347	949
TOTAL	1754	6796	8489	16639



COMPARISON BETWEEN BASIC AND TRIAL PATHAS  
CATEGORIZED BY  
PILOT LICENSE

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	184	624	844	1652
PRIVATE	915	3669	4428	9012
COMMERCIAL	545	2146	2373	5064
AIRLINE	96	329	435	860
TOTAL	1740	6768	8080	16588

COMPARISON BETWEEN BASIC AND TRIAL PATHAS  
CATEGORIZED BY  
WEATHER RATING

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	569	2611	2994	6174
VFR	1171	4157	5086	10414
TOTAL	1740	6768	8080	16588

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
ENGINE LICENSE

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	472	1905	1995	4372
SINGLE	1229	4752	5813	11794
TOTAL	1701	6657	7808	16166

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
FLYING TIME

FLYING TIME(HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	897	3484	4262	8643
401-800	187	909	1197	2293
801-1600	230	850	1043	2123
1601-3200	193	729	727	1649
3200+	247	824	860	1931
TOTAL	1754	6796	8089	16639

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
GADO

GADO	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	1016	4132	5121	10269
TETERBORD	642	2342	2639	5623
TOTAL	1658	6474	7760	15892

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	1613	6333	7601	15347
TURBO	28	126	121	275
JET	99	268	331	698
TOTAL	1740	6727	8053	16520

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	141	474	677	1292
PASSAIC	51	235	191	477
MANHATTAN	70	293	402	765
BROOKLYN	74	209	270	553
NASSAU	265	1127	1333	2725
BRONX	37	112	71	220
HUYTERDOON	0	2	15	17
HUDDON	26	78	99	203
SECON	119	566	646	1331
RICHMOND	4	65	143	212
MIDDLESEX	60	243	327	630
MONMOUTH	106	379	379	814
MORRIS	110	316	309	735
WESTCHESTER	125	478	285	888
ORANGE	30	138	158	326
SUFFOLK	191	895	986	2072
SULLIVAN	0	9	23	34
ROCKLAND	27	105	135	287
SCHERSET	12	65	25	102
PULNAM	13	64	41	118
ESSEX	75	292	319	686
UNION	70	177	195	442
SARSEX	4	3	10	17
MECKER	9	32	44	85
DUTCHESS	19	68	111	198
ULSTER	23	87	58	168
TOTAL	1058	6462	7734	15854

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	299	1127	1353	2779
21-50	366	1688	2340	4394
51-100	513	1906	2289	4708
101-200	293	1126	1227	2646
201-400	174	504	477	1155
400+	109	443	403	957
TOTAL	1754	6796	8089	16639

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	1312	4810	5705	11827
21-50	284	1200	1460	2944
51-100	105	455	527	1087
101-200	19	168	180	367
201-400	16	101	150	267
400+	18	62	67	147
TOTAL	1754	6796	8089	16639



COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	746	2577	2507	5830
6-10	395	1352	1629	3336
11-20	312	1210	1675	3197
21-40	191	904	1140	2235
40+	150	753	1138	2041
TOTAL	1734	6796	8089	16639

REACTIONS TO TRIAL PATMAS STATEMENTS

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	322	1052	252	138	20	1784
NOT ENOUGH INFORMATION IS PROVIDED	166	804	404	327	44	1745
THE INFORMATION PROVIDED IS ACCURATE	9	91	368	1225	71	1764
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	14	118	174	1363	92	1761
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	18	108	245	1323	71	1765
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	44	305	366	927	145	1787
THE MESSAGE IS TOO LONG	95	965	409	241	39	1749
THE MESSAGE IS TOO SHORT	127	962	462	151	17	1719
THE SPEAKER IS EASY TO UNDERSTAND	40	160	170	1257	161	1788
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	40	139	193	1280	115	1767
THE SPEAKER TALKED TOO SLOWLY	133	1295	251	56	6	1741
THE SPEAKER TALKED TOO FAST	88	1059	293	270	36	1746
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	86	183	162	1135	218	1784
IT IS EASY TO COMPREHEND THE INFORMATION	15	103	195	1326	118	1757
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	26	182	400	1086	94	1788
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	7	38	153	1177	410	1785
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	12	23	117	870	779	1801
TOTAL	1242	7587	4614	14152	2436	30031
TOTAL (TO ALL TRIAL PATMAS STATEMENTS FOR WHICH STRONGLY AGREE = FAVORABLE)	311	1450	2543	12969	2274	19547

REACTIONS TO TRIAL PATNAS STATEMENTS

CATEGORIZED BY  
PILOT LICENSE

(STRONGLY AGREE = FAVORABLE)

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	35	182	427	1507	271	2422
PRIVATE	167	812	1336	7320	1313	10948
COMMERCIAL	89	380	672	3478	582	5201
AIRLINE	20	74	102	641	106	943
TOTAL	311	1448	2537	12946	2272	18514

10-10

REACTIONS TO TRIAL PATNAS STATEMENTS

CATEGORIZED BY  
WEATHER RATING

(STRONGLY AGREE = FAVORABLE)

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	119	505	802	4300	713	6439
VFR	192	943	1735	8646	1559	13075
TOTAL	311	1448	2537	12946	2272	18514

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE = FAVORABLE)

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	91	373	592	2979	496	4531
SINGLE	210	1042	1869	9598	1705	14424
TOTAL	301	1415	2461	12577	2201	18955

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE = FAVORABLE)

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	178	851	1516	7491	1448	11484
401-800	33	166	285	1692	256	2432
801-1600	41	174	286	1353	240	2094
1601-3200	27	115	201	1088	129	1560
3200+	32	144	255	1345	201	1977
TOTAL	311	1450	2543	12969	2274	18947

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
GADC  
(STRONGLY AGREE = FAVORABLE)

GADC	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	146	793	1529	8029	1443	11940
TETERBORD	147	578	803	4435	743	6786
TOTAL	293	1371	2412	12464	2186	18726

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN  
(STRONGLY AGREE = FAVORABLE)

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	289	1369	2311	12101	2131	18201
TURBO	5	28	81	224	55	393
JET	14	49	136	537	67	803
TOTAL	308	1446	2528	12862	2253	18397



REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE = FAVORABLE)

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	12	59	114	897	214	1296
PASSAIC	12	58	68	346	58	542
MANHATTAN	18	62	124	681	148	1033
BROOKLYN	4	51	86	417	60	618
NASSAU	33	204	361	1923	325	2876
BROMX	3	19	28	193	27	270
HUNTERDON	0	5	1	14	2	22
HUDSON	4	17	22	137	27	207
BERGEN	40	140	214	1156	150	1700
RICHMOND	9	21	19	187	24	240
MIDDLESEX	14	78	67	467	81	707
MONMOUTH	21	64	150	564	79	878
MORRIS	16	73	112	756	128	1085
WESTCHESTER	17	98	174	945	163	1397
ORANGE	6	17	48	235	41	367
SUFFOLK	35	190	337	1664	294	2320
SULLIVAN	0	0	1	32	0	33
ROCKLAND	3	28	69	284	49	433
SOMERSET	1	14	4	78	11	108
PUTNAM	3	14	19	140	42	218
ESSEX	28	81	129	487	120	845
UNION	8	39	98	366	71	582
SUSSEX	0	0	2	18	2	22
MERCER	2	6	13	43	13	77
DUTCHESS	1	15	80	225	31	352
ULSTER	1	14	88	158	23	265
TOTAL	292	1367	2408	12443	2183	18693

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE • FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	48	219	682	2381	389	3719
21-50	62	385	698	3583	592	5320
51-100	88	412	591	3645	731	5467
101-200	71	259	288	1909	311	2838
201-400	20	88	118	786	124	1136
400+	22	87	166	665	127	1067
TOTAL	311	1450	2543	12969	2274	18547

10-14

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
(STRONGLY AGREE • FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	242	1152	2227	10675	1823	18119
21-50	36	184	208	1404	309	2141
51-100	19	58	56	520	92	745
101-200	7	15	26	193	21	262
201-400	4	29	14	110	17	174
400+	3	12	12	67	12	106
TOTAL	311	1450	2543	12969	2274	18547

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	123	580	1592	4899	744	7938
6-10	90	304	320	2714	459	3847
11-20	70	275	342	2609	459	3755
21-40	41	155	143	1451	322	2112
40+	27	136	146	1296	290	1895
TOTAL	311	1450	2543	12969	2274	19347

JOINT REACTIONS OF ALL RESPONDENTS

TOD MUCH INFORMATION IS PROVIDED

NOT ENOUGH INFORMATION IS PROVIDED

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
85	46	9	20	5	165
103	545	58	92	3	801
39	197	161	5	1	403
59	229	21	12	1	322
25	12	1	2	3	43
311	1029	250	131	13	1734

JOINT REACTIONS OF ALL RESPONDENTS

THE MESSAGE IS TOO LONG

THE MESSAGE IS TOO SHORT

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
52	15	5	34	19	125
12	707	59	169	10	937
11	97	329	18	1	456
8	124	7	9	0	148
11	4	0	1	1	17
94	947	400	231	31	1703

JOINT REACTIONS OF ALL RESPONDENTS

THE SPEAKER TALKED TOO SLOWLY

THE SPEAKER TALKED TOO FAST

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
69	12	1	1	3	86
14	983	22	32	1	1052
2	70	216	3	0	291
30	208	10	12	0	260
18	12	0	1	2	33
133	1285	249	49	6	1722

CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PATMAS

	NO	FSS CONTACTED	YES	TOTAL
PRE-FLIGHT FSS CONTACT	535		1313	1848
IN-FLIGHT FSS CONTACT	726		803	1529
TOTAL	1261		2116	3377

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	276	956	53	28	1313
IN-FLIGHT FSS CONTACT	483	298	9	13	803
TOTAL	759	1254	62	41	2116



COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
-PERCENTAGES-

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	14.97	22.16	62.87	100.00
ACCURACY OF INFORMATION PROVIDED	8.50	47.57	43.93	100.00
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	10.32	41.38	48.30	100.00
YOUR SATISFACTION WITH BRIEFING	12.46	26.25	61.29	100.00
ORDER IN WHICH INFORMATION IS PRESENTED	11.76	38.24	50.00	100.00
MESSAGE LENGTH	14.09	36.32	49.59	100.00
QUALITY OF SPEAKING VOICE	9.57	51.93	38.49	100.00
AMOUNT OF BACKGROUND NOISE	9.16	56.01	34.83	100.00
SPEAKING RATE	8.75	58.49	32.76	100.00
CONNECTED PROMPTLY TO RECORDED MESSAGE	9.57	46.33	44.09	100.00
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	10.79	32.27	56.94	100.00
MINIMIZES ADDITIONAL INFLIGHT INFORMATION FROM FSS	8.46	44.37	46.97	100.00
EASE OF COMPREHENSION	8.80	45.85	45.34	100.00
USEFULNESS OF INFORMATION	9.62	28.76	61.62	100.00
RESPONSIVE TO YOUR NEEDS	10.27	31.01	58.73	100.00
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	9.14	37.16	53.71	100.00
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	12.96	50.47	36.56	100.00
TOTAL	10.54	40.84	48.61	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
PILOT LICENSE  
-PERCENTAGES-

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	11.14	37.77	51.09	100.00
PRIVATE	10.15	40.71	49.13	100.00
COMMERCIAL	10.76	42.38	46.86	100.00
AIRLINE	11.16	38.26	50.58	100.00
TOTAL	10.49	40.80	48.71	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
WEATHER RATING  
-PERCENTAGES-

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	9.22	42.29	48.49	100.00
VFR	11.24	39.92	48.84	100.00
TOTAL	10.49	40.80	48.71	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY  
ENGINE LICENSE  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	10.80	43.57	45.63	100.00
SINGLE	10.42	40.29	49.29	100.00
TOTAL	10.52	41.18	48.30	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY  
FLYING TIME  
-PERCENTAGES-

FLYING TIME (HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	10.38	40.31	49.31	100.00
401-800	8.16	39.64	52.20	100.00
801-1600	10.83	40.04	49.13	100.00
1601-3200	11.70	44.21	44.09	100.00
3200+	12.79	42.67	44.54	100.00
TOTAL	10.54	40.84	48.61	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY

GAOQ

~PERCENTAGES~

GAOQ	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	9.89	40.24	49.87	100.00
TETERBORO	11.42	41.65	46.93	100.00
TOTAL	10.43	40.74	48.83	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS

CATEGORIZED BY

GAOQ

~PERCENTAGES~

TYPE OF POWER P. ANT	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	10.37	40.73	48.89	100.00
TURBO	10.18	45.82	44.00	100.00
JET	14.18	38.40	47.42	100.00
TOTAL	10.53	40.72	48.75	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
-PERCENTAGES-

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	10.91	36.69	52.40	100.00
PASSAIC	10.69	49.27	40.04	100.00
MANHATTAN	8.28	37.07	54.65	100.00
BROOKLYN	13.38	27.79	58.82	100.00
NASSAU	9.72	41.36	48.92	100.00
BROOK	16.82	50.91	32.27	100.00
HUNTERDON	0.	11.76	88.24	100.00
HUDSON	12.81	38.42	48.77	100.00
BERGEN	8.94	42.52	48.53	100.00
RICHMOND	1.89	30.66	67.45	100.00
MIDDLESEX	9.52	38.57	51.90	100.00
MONMOUTH	13.02	40.42	46.56	100.00
MORRIS	13.50	38.77	47.73	100.00
WESTCHESTER	10.52	40.24	49.24	100.00
ORANGE	9.20	42.33	48.47	100.00
SUFFOLK	9.22	43.19	47.59	100.00
SULLIVAN	0.	26.67	73.33	100.00
ROCKLAND	9.41	36.59	54.01	100.00
SOMERSET	11.76	63.73	24.51	100.00
PUTNAM	11.02	54.24	34.75	100.00
ESSEX	10.93	42.57	46.50	100.00
UNION	13.84	40.05	46.12	100.00
SUSSEX	23.53	17.63	58.82	100.00
MERCER	10.59	37.65	51.76	100.00
DUTCHESS	8.21	34.87	56.92	100.00
ULSTER	13.69	51.79	34.52	100.00
TOTAL	10.46	40.76	48.78	100.00



COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	10.76	40.55	48.69	100.00
21-50	8.33	38.42	53.25	100.00
51-100	10.90	40.48	48.62	100.00
101-200	11.07	42.55	46.37	100.00
201-400	15.06	43.64	41.30	100.00
400+	11.39	46.50	42.11	100.00
TOTAL	10.54	40.84	48.61	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	11.09	40.67	48.24	100.00
21-50	9.65	40.76	49.59	100.00
51-100	9.66	41.86	48.48	100.00
101-200	5.18	45.78	49.05	100.00
201-400	5.99	37.83	56.18	100.00
400+	12.24	42.18	45.58	100.00
TOTAL	10.54	40.84	48.61	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATNAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATNAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	12.80	44.20	43.00	100.00
6-10	10.64	40.53	48.83	100.00
11-20	9.76	37.85	52.39	100.00
21-40	8.55	40.45	51.01	100.00
40+	7.35	36.89	55.76	100.00
TOTAL	10.54	40.84	48.61	100.00

REACTIONS TO TRIAL PATRAS STATEMENTS  
-PERCENTAGES-

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	18.05	58.97	14.13	7.74	1.12	100.00
NOT ENOUGH INFORMATION IS PROVIDED	9.51	46.07	23.15	18.74	2.52	100.00
THE INFORMATION PROVIDED IS ACCURATE	0.51	5.16	20.86	69.44	4.02	100.00
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	0.80	6.70	9.88	77.40	5.22	100.00
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	1.02	6.12	13.88	74.96	4.02	100.00
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	2.46	17.07	20.48	51.87	8.11	100.00
THE MESSAGE IS TOO LONG	5.43	55.17	23.38	13.78	2.23	100.00
THE MESSAGE IS TOO SHORT	7.39	55.96	26.88	8.78	0.99	100.00
THE SPEAKER IS EASY TO UNDERSTAND	2.24	8.95	9.51	70.30	9.00	100.00
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	2.26	7.87	10.92	72.44	6.51	100.00
THE SPEAKER TALKED TOO SLOWLY	7.64	74.38	14.42	3.22	0.34	100.00
THE SPEAKER TALKED TOO FAST	5.04	60.65	16.78	15.46	2.06	100.00
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	4.82	10.26	9.08	63.62	12.22	100.00
IT IS EASY TO COMPREHEND THE INFORMATION	0.85	5.86	11.10	75.47	6.72	100.00
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	1.45	10.18	22.37	60.74	5.26	100.00
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	0.39	2.13	8.57	65.94	22.97	100.00
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	0.67	1.28	6.50	48.31	43.25	100.00
TOTAL	4.14	25.26	15.36	47.12	8.11	100.00

REACTIONS TO TRIAL PATHAS STATEMENTS

CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	1.45	7.51	17.63	62.22	11.19	100.00
PRIVATE	1.53	7.42	12.20	66.86	11.99	100.00
COMMERCIAL	1.71	7.31	12.92	66.87	11.19	100.00
AIRLINE	2.12	7.85	10.82	67.97	11.24	100.00
TOTAL	1.59	7.42	13.00	66.34	11.64	100.00

10-26

REACTIONS TO TRIAL PATHAS STATEMENTS

CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	1.85	7.84	12.46	66.78	11.07	100.00
VFR	1.47	7.21	13.27	66.13	11.92	100.00
TOTAL	1.59	7.42	13.00	66.34	11.64	100.00

REACTIONS TO TRIAL PATWAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	2.01	8.23	13.07	65.75	10.95	100.00
SINGLE	1.46	7.22	12.96	66.34	11.82	100.00
TOTAL	1.59	7.47	12.98	66.35	11.61	100.00

REACTIONS TO TRIAL PATWAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	1.55	7.41	13.20	65.23	12.61	100.00
401-800	1.36	6.83	11.72	69.57	10.53	100.00
801-1600	1.96	8.31	13.66	64.61	11.46	100.00
1601-3200	1.73	7.37	12.88	69.74	8.27	100.00
3200+	1.62	7.28	12.90	68.03	10.17	100.00
TOTAL	1.59	7.42	13.01	66.35	11.63	100.00



REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
G400

(STRONGLY AGREE + FAVORABLE)  
-PERCENTAGES-

	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
G400						
FARMINGDALE	1.22	6.64	12.81	67.24	12.09	100.00
TETERBORO	2.17	8.52	13.01	65.36	10.95	100.00
TOTAL	1.56	7.32	12.88	66.56	11.67	100.00

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

(STRONGLY AGREE + FAVORABLE)  
-PERCENTAGES-

	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TYPE OF POWER PLANT						
PISTON	1.59	7.52	12.70	66.49	11.71	100.00
TURBO	1.27	7.12	20.61	57.00	13.99	100.00
JET	1.74	6.10	16.94	66.87	8.34	100.00
TOTAL	1.59	7.45	13.03	66.31	11.62	100.00

REACTIONS TO TRIAL PATRAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE, FAVORABLE)  
-PERCENTAGES-

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	0.93	4.55	8.80	69.21	16.51	100.00
PASSAIC	2.21	10.70	12.55	63.84	10.70	100.00
MANHATTAN	1.74	6.00	12.00	65.92	14.33	100.00
BROOKLYN	0.65	8.25	13.92	67.48	9.71	100.00
NASSAU	1.15	7.09	12.55	67.91	11.30	100.00
BRONX	1.11	7.04	10.37	71.48	10.00	100.00
HUNTERDON	0.00	22.73	4.55	63.64	9.09	100.00
HUDSON	1.93	8.21	10.63	66.18	13.04	100.00
BERGEN	2.35	8.24	12.39	68.00	8.82	100.00
RICHMOND	3.75	8.75	7.92	69.58	10.00	100.00
MIDDLESEX	1.98	11.03	9.48	66.05	11.46	100.00
MORRIS	2.39	7.29	17.08	64.24	9.00	100.00
MONMOUTH	1.47	6.73	10.32	69.68	11.80	100.00
WESTCHESTER	1.22	7.02	12.46	67.64	11.67	100.00
ORANGE	1.63	4.63	13.08	69.48	11.17	100.00
SUFFOLK	1.39	7.54	13.37	66.03	11.67	100.00
SULLIVAN	0.00	0.00	3.03	96.97	0.00	100.00
ROCKLAND	0.69	6.47	15.94	65.59	11.32	100.00
SOMERSET	0.93	12.96	3.70	72.22	10.13	100.00
PUTNAM	1.38	6.42	8.72	64.22	19.27	100.00
ESSEX	3.31	9.59	15.27	57.03	14.20	100.00
UNION	1.37	6.70	16.84	62.69	12.20	100.00
SUSSEX	0.00	0.00	9.09	81.82	9.09	100.00
MERCER	2.60	7.79	16.88	55.84	16.88	100.00
DUTCHESS	0.28	4.26	22.73	63.92	8.81	100.00
ULSTER	0.75	5.28	25.66	59.62	8.68	100.00
TOTAL	1.56	7.31	12.88	66.57	11.68	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIME;	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1.29	5.89	18.34	64.02	10.46	100.00
21-50	1.17	7.24	13.12	67.35	11.13	100.00
51-100	1.61	7.54	10.81	66.67	13.37	100.00
101-200	2.50	9.13	10.15	67.27	10.96	100.00
201-400	1.76	7.75	10.39	69.19	10.92	100.00
400+	2.06	8.15	15.56	62.32	11.90	100.00
TOTAL	1.59	7.42	13.01	66.35	11.63	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1.50	7.15	13.82	66.23	11.31	100.00
21-50	1.68	8.59	9.72	65.58	14.43	100.00
51-100	2.55	7.79	7.52	69.80	12.35	100.00
101-200	2.67	5.73	9.92	73.66	8.02	100.00
201-400	2.30	16.67	8.05	63.22	9.77	100.00
400+	2.83	11.32	11.30	63.21	11.32	100.00
TOTAL	1.59	7.42	13.01	66.35	11.63	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	1.35	7.31	20.06	61.72	9.37	100.00
6-10	1.30	7.90	8.32	70.55	11.93	100.00
11-20	1.86	7.32	9.11	69.48	12.22	100.00
21-40	1.94	7.34	6.77	68.70	15.25	100.00
40+	1.42	7.18	7.70	68.39	15.30	100.00
TOTAL	1.59	7.42	13.01	66.35	11.63	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

TOO MUCH INFORMATION IS PROVIDED

NOT ENOUGH INFORMATION IS PROVIDED

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
51.52	27.88	5.45	12.12	3.03	100.00
12.86	68.04	7.24	11.49	0.37	100.00
9.68	48.88	39.95	1.24	0.25	100.00
18.32	71.12	6.52	3.73	0.31	100.00
58.14	27.91	2.33	6.53	6.98	100.00
17.94	59.34	14.42	7.95	0.75	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE MESSAGE IS TOO LONG

THE MESSAGE IS TOO SHORT

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
41.60	12.00	4.00	27.20	15.20	100.00
1.25	73.88	6.17	17.66	1.04	100.00
2.41	21.27	72.15	3.95	0.22	100.00
5.41	83.78	4.73	6.08	0.	100.00
64.71	23.53	0.	5.88	5.88	100.00
5.52	55.61	23.49	13.56	1.82	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE SPEAKER TALKED TOO SLOWLY

THE SPEAKER TALKED TOO FAST

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
80.23	13.95	1.16	1.16	3.49	100.00
1.33	93.44	2.09	3.04	0.10	100.00
0.69	24.05	74.23	1.03	0.	100.00
11.54	80.00	3.85	4.62	0.	100.00
56.55	36.36	0.	3.03	6.06	100.00
7.72	74.62	14.46	2.85	0.35	100.00



AD-A047 248

NATIONAL AVIATION FACILITIES EXPERIMENTAL CENTER ATL--ETC F/G 4/2  
NEW YORK CITY PILOTS AUTOMATIC TELEPHONE WEATHER ANSWERING SERV--ETC(U)  
OCT 77 F STAIANO, E SHOCHET

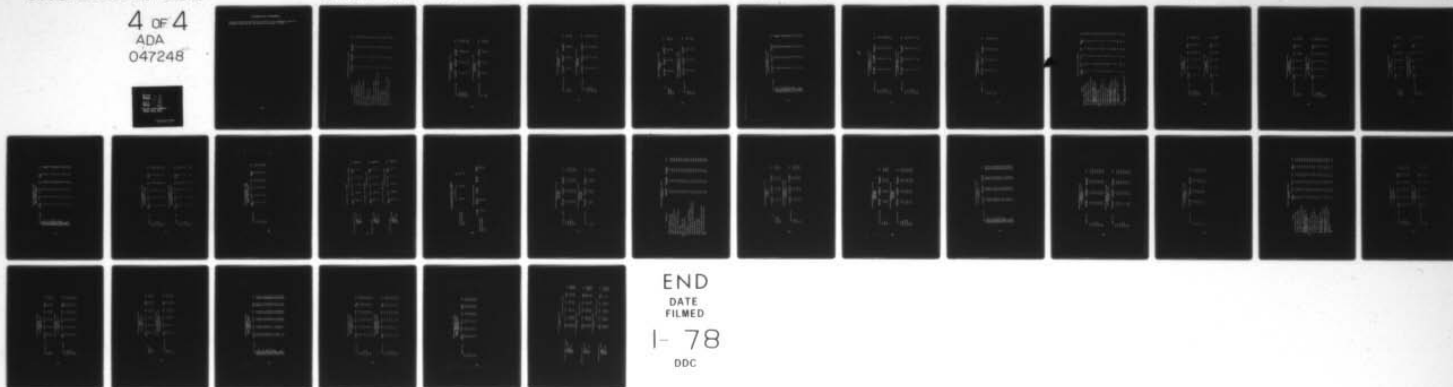
UNCLASSIFIED

FAA-NA-77-21

FAA-RD-77-80-VOL-2

NL

4 OF 4  
ADA  
047248



## QUESTIONNAIRE DATA (SUPPLEMENTAL)

The questionnaire data obtained from responses to the supplemental survey are contained in this section. The material is discussed in volume I.

## COMPARISON BETWEEN BASIC AND TRIAL PATWAS

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	29	34	159	222
ACCURACY OF INFORMATION PROVIDED	23	91	107	221
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	18	60	141	219
YOUR SATISFACTION WITH BRIEFING	25	34	159	218
ORDER IN WHICH INFORMATION IS PRESENTED	21	73	121	215
MESSAGE LENGTH	29	66	123	218
QUALITY OF SPEAKING VOICE	23	110	86	219
AMOUNT OF BACKGROUND NOISE	25	108	86	219
SPEAKING RATE	16	125	75	216
CONNECTED PROMPTLY TO RECORDED MESSAGE	26	82	111	219
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	24	39	157	220
MINIMIZES ADDITIONAL INFIGHT INFORMATION FROM FSS	22	73	122	217
EASE OF COMPREHENSION	23	79	119	221
USEFULNESS OF INFORMATION	24	42	156	222
RESPONSIVE TO YOUR NEEDS	25	40	155	220
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	22	58	141	221
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	37	96	82	215
TOTAL	412	1210	2100	3722

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
PILOT LICENSE

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	17	97	98	205
PRIVATE	242	703	985	1930
COMMERCIAL	158	361	890	1409
AIRLINE	2	40	103	145
TOTAL	412	1201	2076	3689

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
WEATHER RATING

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	211	476	1122	1809
VFR	201	725	954	1880
TOTAL	412	1201	2076	3689

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
ENGINE LICENSE

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	171	352	683	1206
SINGLE	240	813	1362	2415
TOTAL	411	1165	2045	3621

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
FLYING TIME

FLYING TIME (HOURS)	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	143	536	762	1441
401-800	94	293	417	804
801-1600	85	181	419	685
1601-3200	63	114	320	497
3200+	27	86	182	295
TOTAL	412	1210	2100	3722



COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
GADC

GADC	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	283	732	1373	2388
TETERBORD	125	448	661	1234
TOTAL	408	1180	2034	3622

COMPARISON BETWEEN BASIC AND TRIAL PATWAS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	358	1138	2009	3505
TURBO	29	26	10	65
JET	22	29	51	102
TOTAL	409	1193	2070	3672

COMPARISON BETWEEN BASIC AND TRIAL PAYMAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	MC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	18	50	186	254
PASSAIC	0	16	69	85
MANHATTAN	17	119	151	287
BROOKLYN	34	80	172	286
NASSAU	66	147	303	516
BROMX	10	13	10	33
HUNTERDON	0	10	0	0
HUDSON	1	15	18	34
BERGEN	57	157	199	413
RICHMOND	21	26	51	98
MIDDLESEX	25	51	60	136
WONMOUTH	4	47	49	100
MORRIS	13	28	23	64
WESTCHESTER	28	105	309	442
ORANGE	0	4	29	33
SUFFOLK	48	131	193	370
SULLIVAN	0	31	0	0
ROCKLAND	27	19	43	101
SOMERSET	0	15	15	34
PUTNAM	0	8	17	17
ESSEX	21	79	117	217
UNION	2	15	83	100
SUSSEX	2	16	16	34
PERCE	0	12	12	17
DUTCHESS	1	9	7	17
ULSTER	0	6	11	17
TOTAL	393	1178	2034	3605

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	19	108	209	336
21-50	99	226	252	577
51-100	93	387	674	1154
101-200	116	372	650	1138
201-400	59	74	197	330
400+	26	43	118	187
TOTAL	412	1210	2100	3722

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	272	815	1220	2307
21-50	113	264	497	874
51-100	24	82	231	337
101-200	2	40	94	136
201-400	0	3	31	34
400+	1	6	27	34
TOTAL	412	1210	2100	3722

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	132	302	327	761
6-10	85	247	345	677
11-20	60	238	525	823
21-40	88	249	423	760
40+	47	174	480	701
TOTAL	412	1210	2100	3722

REACTIONS TO TRIAL PATNAS STATEMENTS

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	110	249	28	27	11	421
NOT ENOUGH INFORMATION IS PROVIDED	54	209	72	70	8	413
THE INFORMATION PROVIDED IS ACCURATE	1	11	49	322	27	410
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	3	20	18	340	36	417
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	5	14	33	331	33	416
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	11	48	72	247	40	418
THE MESSAGE IS TOO LONG	40	268	57	39	11	415
THE MESSAGE IS TOO SHORT	36	272	62	29	8	407
THE SPEAKER IS EASY TO UNDERSTAND	8	27	32	298	50	415
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	10	28	21	322	37	418
THE SPEAKER TALKED TOO SLOWLY	49	318	37	13	0	417
THE SPEAKER TALKED TOO FAST	24	288	45	47	9	413
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	14	37	13	259	95	418
IT IS EASY TO COMPREHEND THE INFORMATION	0	15	13	324	60	412
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	2	23	52	302	36	415
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	2	10	22	256	128	418
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	1	1	15	170	232	419
TOTAL	370	1834	641	3396	821	7062
TOTAL (TO ALL TRIAL PATNAS STATEMENTS FOR WHICH STRONGLY AGREE = FAVORABLE)	57	234	340	3171	774	4576



REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE ■ FAVORABLE)

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	1	19	33	172	66	291
PRIVATE	33	140	202	1811	423	2609
COMMERCIAL	21	57	87	1038	256	1459
AIRLINE	2	18	18	150	29	217
TOTAL	57	234	340	3171	774	4576

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE ■ FAVORABLE)

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	25	101	153	1515	321	2115
VFR	32	133	187	1656	423	2461
TOTAL	57	234	340	3171	774	4576

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE ■ FAVORABLE)

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	20	62	87	927	212	1308
SINGLE	31	171	245	2233	546	3226
TOTAL	51	233	332	3160	758	4534

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE ■ FAVORABLE)

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	25	116	178	1389	391	2099
401-800	11	45	65	612	164	897
801-1600	5	25	30	515	89	664
1601-3200	9	26	40	405	79	559
3200+	7	22	27	250	51	357
TOTAL	57	234	340	3171	774	4576

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
GADC  
(STRONGLY AGREE ■ FAVORABLE)

GADC	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	24	100	208	2037	517	2956
TETERBORD	29	125	118	1026	890	1938
TOTAL	53	225	326	3083	757	4444

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN  
(STRONGLY AGREE ■ FAVORABLE)

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	56	221	327	3022	745	4371
TURBO	1	5	2	65	13	86
JET	0	8	11	73	16	108
TOTAL	57	234	340	3160	774	4565

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE = FAVORABLE)

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	1	6	26	241	63	337
PASSAIC	3	8	10	60	29	110
MANHATTAN	3	12	37	273	70	385
BROOKLYN	1	15	13	139	52	220
NASSAU	10	20	45	466	109	650
BRONX	2	4	4	34	11	55
HUNTERDON	0	0	0	0	0	0
HUDSON	2	4	4	38	7	55
BERGEN	9	45	37	350	61	502
RICHMOND	2	5	6	78	6	97
MIDDLESEX	1	10	12	130	12	165
MONMOUTH	3	5	17	80	35	130
MORRIS	7	13	13	82	27	142
WESTCHESTER	1	16	18	293	61	389
ORANGE	0	0	1	26	17	44
SUFFOLK	1	13	45	333	85	477
SULLIVAN	0	0	0	0	0	0
ROCKLAND	2	1	6	68	11	88
SOMERSET	1	0	5	12	17	25
PUTNAM	0	5	0	55	17	77
ESSEX	2	25	15	150	34	226
UNION	1	7	6	79	28	121
SUSSEX	0	3	1	29	0	33
MERCER	0	5	8	16	3	32
DUTCHESS	0	2	2	19	10	33
ULSTER	1	0	5	22	5	33
TOTAL	53	224	326	3073	757	4433

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE ■ FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1	17	34	297	70	419
21-50	11	38	48	570	109	776
51-100	17	84	123	1003	298	1325
101-200	19	61	88	853	201	1222
201-400	6	21	40	301	59	427
400+	3	13	7	147	37	207
TOTAL	57	234	340	3171	774	4576

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
(STRONGLY AGREE ■ FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	39	179	253	2285	594	3350
21-50	8	29	55	544	110	746
51-100	7	17	18	189	41	272
101-200	3	6	8	94	20	131
201-400	0	3	0	15	4	22
400+	0	0	6	44	5	55
TOTAL	57	234	340	3171	774	4576



REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT TRIAL PATHAS LISTENING  
(STRONGLY AGREE = FAVORABLE)

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	13	32	76	592	130	843
6-10	6	36	42	527	111	722
11-20	14	69	81	768	188	1120
21-40	8	47	78	692	180	1035
40+	16	50	63	592	165	886
TOTAL	57	234	340	3171	774	4576

JOINT REACTIONS OF ALL RESPONDENTS  
TOO MUCH INFORMATION IS PROVIDED

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
31	11	5	1	6	54
35	147	7	19	1	209
18	39	12	2	1	72
21	41	4	4	0	70
4	3	0	0	1	8
109	241	28	26	9	413

NOT ENOUGH INFORMATION IS PROVIDED  
STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS  
THE MESSAGE IS TOO LONG

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
23	2	3	3	5	36
6	214	17	34	1	272
3	24	34	0	1	62
3	22	1	1	0	27
4	2	1	0	1	8
39	264	56	36	8	405

THE MESSAGE IS TOO SHORT  
STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

JOINT REACTIONS OF ALL RESPONDENTS  
THE SPEAKER TALKED TOO SLOWLY

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
22	1	0	1	0	24
9	266	7	6	0	288
4	14	26	1	0	45
5	35	2	4	0	46
9	0	0	0	0	9
49	316	35	12	0	412

THE SPEAKER TALKED TOO FAST  
STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

CONTACT OF THE FSS FOR ADDITIONAL INFORMATION  
AFTER LISTENING TO THE TRIAL PAYAS

	FSS CONTACTED		TOTAL
	NO	YES	
PRE-FLIGHT FSS CONTACT	102	271	373
IN-FLIGHT FSS CONTACT	138	179	317
TOTAL	240	450	690

II-17

LENGTH OF FSS CONTACTS WHEN MADE

	LESS THAN 1 MINUTE	BETWEEN 1 TO 5 MINS.	BETWEEN 6 TO 10 MINS.	MORE THAN 10 MINS.	TOTAL NO. CONTACTS
PRE-FLIGHT FSS CONTACT	81	180	4	6	271
IN-FLIGHT FSS CONTACT	119	59	0	1	179
TOTAL	200	239	4	7	450

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
PILOT LICENSE  
-PERCENTAGES-

TYPE OF PILOT LICENSE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
STUDENT	4.88	47.32	47.80	100.00
PRIVATE	12.54	36.42	51.04	100.00
COMMERCIAL	11.21	25.62	63.17	100.00
AIRLINE	1.38	27.59	71.03	100.00
TOTAL	11.17	32.56	56.28	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
WEATHER RATING  
-PERCENTAGES-

TYPE OF WEATHER RATING	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
IFR	11.66	26.31	62.02	100.00
VFR	10.69	38.56	50.74	100.00
TOTAL	11.17	32.56	56.28	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
-PERCENTAGES-

CHARACTERISTIC	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
AMOUNT OF INFORMATION PROVIDED	13.06	15.32	71.62	100.00
ACCURACY OF INFORMATION PROVIDED	10.41	41.18	48.42	100.00
ADEQUACY TO SUPPORT A GO/NO-GO DECISION	8.22	27.40	64.38	100.00
YOUR SATISFACTION WITH BRIEFING	11.47	15.60	72.94	100.00
ORDER IN WHICH INFORMATION IS PRESENTED	9.77	33.95	56.28	100.00
MESSAGE LENGTH	13.30	30.28	56.42	100.00
QUALITY OF SPEAKING VOICE	10.50	50.23	39.27	100.00
AMOUNT OF BACKGROUND NOISE	11.42	49.32	39.27	100.00
SPEAKING RATE	7.41	57.87	34.72	100.00
CONNECTED PROMPTLY TO RECORDED MESSAGE	11.87	37.44	50.68	100.00
MINIMIZES ADDITIONAL PREFLIGHT INFORMATION FROM FSS	10.91	17.73	71.36	100.00
MINIMIZES ADDITIONAL INFLIGHT INFORMATION FROM FSS	10.14	23.64	56.22	100.00
EASE OF COMPREHENSION	10.41	35.75	53.85	100.00
USEFULNESS OF INFORMATION	10.81	18.92	70.27	100.00
RESPONSIVE TO YOUR NEEDS	11.36	18.18	70.45	100.00
PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	9.95	26.24	63.80	100.00
AMOUNT OF UNNECESSARY INFORMATION PROVIDED	17.21	44.65	38.14	100.00
TOTAL	11.07	32.51	56.42	100.00



COMPARISON BETWEEN BASIC AND TRIAL PATWAS

CATEGORIZED BY  
GADC

-PERCENTAGES-

GADC	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
FARMINGDALE	11.85	30.65	57.50	100.00
TETERBORG	10.13	36.30	53.57	100.00
TOTAL	11.26	32.58	56.16	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATWAS

CATEGORIZED BY  
TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

-PERCENTAGES-

TYPE OF POWER PLANT	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
PISTON	10.21	32.47	57.32	100.00
TURBO	44.62	40.00	15.38	100.00
JET	21.57	28.43	50.00	100.00
TOTAL	11.14	32.49	56.37	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATHWAYS  
CATEGORIZED BY  
ENGINE LICENSE  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
MULTI	14.18	29.19	56.63	100.00
SINGLE	9.94	33.66	56.40	100.00
TOTAL	11.95	32.17	56.48	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATHWAYS  
CATEGORIZED BY  
FLYING TIME  
-PERCENTAGES-

FLYING TIME (HOURS)	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-400	9.92	37.20	52.88	100.00
401-800	11.69	36.44	51.87	100.00
801-1600	12.41	26.42	61.17	100.00
1601-3200	12.68	22.94	64.39	100.00
3200+	9.15	29.15	61.69	100.00
TOTAL	11.07	32.51	56.42	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
-PERCENTAGES-

COUNTY OF RESIDENCE	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
QUEENS	7.09	19.69	73.23	100.00
PASSAIC	0.	18.82	81.18	100.00
MANHATTAN	5.92	41.46	52.61	100.00
BROOKLYN	18.28	43.01	38.71	100.00
NASSAU	12.79	28.49	58.72	100.00
BROOK	30.30	39.39	30.30	100.00
HUNTERDON	0.	0.	0.	0.
HUDSON	2.94	44.12	52.94	100.00
BERGEN	13.80	38.01	48.18	100.00
RICHMOND	21.43	26.53	52.04	100.00
MIDDLESEX	18.38	37.50	44.12	100.00
HONMOUTH	4.00	47.00	49.00	100.00
MORRIS	20.31	43.75	35.84	100.00
WESTCHESTER	6.33	23.76	69.91	100.00
ORANGE	0.	12.12	87.88	100.00
SUFFOLK	12.43	35.41	52.16	100.00
SULLIVAN	0.	0.	0.	0.
ROCKLAND	26.73	30.69	42.57	100.00
SOVERSET	0.	55.88	44.12	100.00
PUTNAM	0.	52.94	47.06	100.00
ESSEX	9.68	36.41	53.92	100.00
UNION	2.00	15.00	83.00	100.00
SUSSEX	5.88	47.06	47.06	100.00
MERCER	0.	29.41	70.59	100.00
DUTCHESS	5.88	52.94	41.18	100.00
ULSTER	0.	35.29	64.71	100.00
TOTAL	10.90	32.68	56.42	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	5.65	32.14	62.20	100.00
21-50	17.16	39.17	43.67	100.00
51-100	8.06	33.54	58.41	100.00
101-200	10.19	32.69	57.12	100.00
201-400	17.88	22.42	59.70	100.00
400+	13.90	22.99	63.10	100.00
TOTAL	11.07	32.51	56.42	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NO SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-20	11.79	35.33	52.88	100.00
21-50	12.93	30.21	56.86	100.00
51-100	7.12	24.33	68.55	100.00
101-200	1.47	29.41	69.12	100.00
201-400	0.	8.82	91.18	100.00
400+	2.94	17.65	79.41	100.00
TOTAL	11.07	32.51	56.42	100.00

COMPARISON BETWEEN BASIC AND TRIAL PATMAS  
CATEGORIZED BY  
DIFFERENT TRIAL PATMAS LISTENING  
-PERCENTAGES-

NUMBER OF TIMES	BASIC BETTER THAN TRIAL	NC SIGNIFICANT DIFFERENCE	TRIAL BETTER THAN BASIC	TOTAL
0-5	17.35	39.68	42.97	100.00
6-10	12.56	36.48	50.96	100.00
11-20	7.29	28.92	63.79	100.00
21-40	11.58	32.76	55.66	100.00
40+	6.70	24.82	68.47	100.00
TOTAL	11.07	32.51	56.42	100.00



REACTIONS TO TRIAL PATNAS STATEMENTS  
-PERCENTAGES-

STATEMENT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
TOO MUCH INFORMATION IS PROVIDED	26.13	58.19	6.65	6.41	2.61	100.00
NOT ENOUGH INFORMATION IS PROVIDED	13.08	50.61	17.43	16.95	1.94	100.00
THE INFORMATION PROVIDED IS ACCURATE	0.24	2.68	11.95	78.54	6.59	100.00
THE CONTENT OF THE BRIEFING WAS SATISFACTORY	0.72	4.80	4.32	81.53	8.63	100.00
THE ORDER IN WHICH THE INFORMATION IS PRESENTED IS SATISFACTORY	1.20	3.37	7.93	79.57	7.93	100.00
THE INFORMATION IS SUFFICIENT TO MAKE A DECISION TO FLY OR NOT TO FLY	2.63	11.48	17.22	59.09	9.57	100.00
THE MESSAGE IS TOO LONG	9.64	64.58	13.73	9.40	2.65	100.00
THE MESSAGE IS TOO SHORT	8.85	66.83	15.23	7.13	1.97	100.00
THE SPEAKER IS EASY TO UNDERSTAND	1.93	6.51	7.71	71.81	12.05	100.00
THE BACKGROUND NOISE IS SUFFICIENTLY LOW	2.39	6.70	5.02	77.03	8.85	100.00
THE SPEAKER TALKED TOO SLOWLY	11.75	76.26	8.87	3.12	0	100.00
THE SPEAKER TALKED TOO FAST	5.81	69.73	10.90	11.38	2.18	100.00
THE RECORDED MESSAGE WAS OBTAINED PROMPTLY AFTER DIALING	3.35	8.85	3.11	61.96	22.73	100.00
IT IS EASY TO COMPREHEND THE INFORMATION	0.	3.64	3.16	78.64	14.56	100.00
THE INFORMATION PROVIDES A CLEAR MENTAL PICTURE OF THE WEATHER	0.48	5.54	12.53	72.77	8.67	100.00
THE NOTAMS AND FLIGHT PRECAUTIONS ARE USEFUL	0.48	2.39	5.26	61.24	30.62	100.00
IT IS HELPFUL TO HAVE THE INFORMATION UPDATED HOURLY	0.24	0.24	3.58	40.57	55.37	100.00
TOTAL	5.24	25.97	9.08	48.09	11.63	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
PILOT LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF PILOT LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
STUDENT	0.34	6.53	11.34	59.11	22.68	100.00
PRIVATE	1.26	5.37	7.74	69.41	16.21	100.00
COMMERCIAL	1.44	3.91	5.96	71.14	17.55	100.00
AIRLINE	0.92	8.29	8.29	69.12	13.36	100.00
TOTAL	1.25	5.11	7.43	69.30	16.91	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
WEATHER RATING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF WEATHER RATING	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
IFR	1.18	4.78	7.23	71.53	15.16	100.00
VFR	1.30	5.40	7.60	67.29	18.41	100.00
TOTAL	1.25	5.11	7.43	69.30	16.91	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
ENGINE LICENSE  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

TYPE OF ENGINE LICENSE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
MULTI	1.53	4.74	6.65	70.87	16.21	100.00
SINGLE	0.96	5.30	7.59	69.22	16.92	100.00
TOTAL	1.12	5.14	7.32	69.70	16.72	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

FLYING TIME (HOURS)	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-400	1.19	5.53	8.48	66.17	18.63	100.00
401-800	1.23	5.02	7.25	68.23	18.28	100.00
801-1600	0.75	3.77	4.52	77.56	13.40	100.00
1601-3200	1.61	4.65	7.16	72.45	14.13	100.00
3200+	1.96	6.16	7.56	70.03	14.29	100.00
TOTAL	1.25	5.11	7.43	69.30	16.91	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS

CATEGORIZED BY

GADC

(STRONGLY AGREE = FAVORABLE)

-PERCENTAGES-

GADC	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
FARMINGDALE	0.83	3.44	7.16	70.78	17.79	100.00
TETERBORD	1.89	8.13	7.67	66.71	15.60	100.00
TOTAL	1.19	5.06	7.34	49.37	17.03	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS

CATEGORIZED BY

TYPE OF POWER PLANT MOST FREQUENTLY FLOWN

(STRONGLY AGREE = FAVORABLE)

-PERCENTAGES-

TYPE OF POWER PLANT	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
PISTON	1.28	5.06	7.48	69.14	17.04	100.00
TURBO	1.16	5.81	2.33	75.58	15.12	100.00
JET	0.	7.41	10.19	67.59	14.81	100.00
TOTAL	1.25	5.13	7.45	69.22	16.96	100.00

REACTIONS TO TRIAL PATNAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT COUNTIES OF RESIDENCE  
(STRONGLY AGREE - FAVORABLE)  
-PERCENTAGES-

COUNTY OF RESIDENCE	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
QUEENS	0.30	1.78	7.72	71.51	18.99	100.00
PASSAIC	2.73	7.27	9.09	54.55	26.36	100.00
MANHATTAN	0.76	3.04	9.27	69.11	17.72	100.00
BROOKLYN	0.45	6.82	5.91	63.18	23.64	100.00
NASSAU	1.54	3.06	5.92	71.69	16.77	100.00
BRONX	3.64	7.27	7.27	61.82	20.00	100.00
HUDSON	0.	0.	0.	0.	0.	0.
HUDSON	3.64	7.27	7.27	69.09	12.73	100.00
BERGEN	1.79	8.96	7.27	69.72	12.15	100.00
RICHMOND	2.06	5.15	6.19	80.41	6.19	100.00
MIDDLESEX	0.61	6.06	7.27	78.79	7.27	100.00
MONTMOUTH	2.31	3.85	5.38	61.54	26.92	100.00
MORRIS	4.93	9.15	9.15	57.75	19.01	100.00
WESTCHESTER	0.26	4.11	4.63	75.32	15.68	100.00
ORANGE	0.	0.	2.27	59.09	38.64	100.00
SUFFOLK	0.21	2.73	6.43	69.81	17.82	100.00
SULLIVAN	0.	0.	0.	0.	0.	0.
POCKLAND	2.27	1.14	0.82	77.27	12.50	100.00
SOMERSET	4.55	0.	22.73	54.55	18.18	100.00
PUTNAM	0.	6.49	0.	71.43	22.08	100.00
ESSEX	0.88	11.06	6.64	66.37	15.04	100.00
UNION	0.83	3.79	4.96	65.29	23.14	100.00
SUSSEX	0.	9.09	3.03	87.88	0.	100.00
MERCER	0.	15.63	25.00	50.00	9.38	100.00
DUTCHESS	0.	6.06	6.06	57.58	30.30	100.00
ULSTER	3.03	0.	15.15	66.67	15.15	100.00
TOTAL	1.20	5.05	7.35	69.32	17.08	100.00



REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT ANNUAL FLYING TIME  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	0.24	4.06	8.11	70.88	16.71	100.00
21-50	1.42	4.90	6.19	73.45	14.05	100.00
51-100	1.11	5.51	8.07	65.77	19.54	100.00
101-200	1.55	4.99	7.20	69.80	16.45	100.00
201-400	1.41	4.92	9.37	70.49	13.82	100.00
400+	1.45	6.28	3.38	71.01	17.87	100.00
TOTAL	1.25	5.11	7.43	69.30	16.91	100.00

REACTIONS TO TRIAL PATMAS STATEMENTS  
CATEGORIZED BY  
DIFFERENT BASIC PATMAS LISTENING  
(STRONGLY AGREE = FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-20	1.16	5.34	7.55	68.21	17.73	100.00
21-50	1.07	3.89	7.37	72.92	14.75	100.00
51-100	2.57	6.25	6.62	69.49	15.07	100.00
101-200	2.29	4.58	6.11	71.76	15.27	100.00
201-400	0.	13.64	0.	68.18	18.18	100.00
400+	0.	0.	10.91	80.00	9.09	100.00
TOTAL	1.25	5.11	7.43	69.30	16.91	100.00

REACTIONS TO TRIAL PATHAS STATEMENTS  
CATEGORIZED BY LISTENING  
DIFFERENT TRIAL PATHAS LISTENING  
(STRONGLY AGREE - FAVORABLE)  
-PERCENTAGES-

NUMBER OF TIMES	STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
0-5	1.54	3.80	9.02	70.23	15.42	100.00
6-10	0.83	4.99	5.82	72.99	15.37	100.00
11-20	1.25	6.16	7.23	68.57	16.79	100.00
21-40	0.80	4.68	7.76	68.86	17.91	100.00
40+	1.81	5.64	7.11	66.82	18.62	100.00
TOTAL	1.25	5.11	7.43	69.30	16.91	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

TOO MUCH INFORMATION IS PROVIDED

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
57.41	20.37	9.26	1.85	11.11	100.00
16.75	70.33	3.35	9.09	0.48	100.00
25.00	54.17	16.67	2.78	1.39	100.00
30.00	58.57	5.71	5.71	0.	100.00
50.00	37.50	0.	0.	12.50	100.00
26.39	58.35	6.78	6.30	2.18	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE MESSAGE IS TOO LONG

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
63.89	5.56	8.33	8.33	13.89	100.00
2.21	78.68	6.25	12.50	0.37	100.00
4.84	38.71	54.84	0.	1.61	100.00
11.11	81.48	3.70	3.70	0.	100.00
50.00	25.00	12.50	0.	12.50	100.00
9.63	65.19	13.83	9.38	1.98	100.00

JOINT REACTIONS OF ALL RESPONDENTS  
-PERCENTAGES-

THE SPEAKER TALKED TOO SLOWLY

STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE	TOTAL
91.67	4.17	0.	4.17	0.	100.00
3.13	92.36	2.43	2.08	0.	100.00
8.89	31.11	57.78	2.22	0.	100.00
10.87	76.09	4.35	8.70	0.	100.00
100.00	0.	0.	0.	0.	100.00
11.89	76.70	8.50	2.91	0.	100.00

NOT ENOUGH INFORMATION IS PROVIDED

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

THE MESSAGE IS TOO SHORT

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL

THE SPEAKER TALKED TOO FAST

STRONGLY DISAGREE  
DISAGREE  
UNCERTAIN  
AGREE  
STRONGLY AGREE  
TOTAL